

**2013 MS4 GENERAL PERMIT  
STORMWATER PROGRAM  
MANAGEMENT PLAN**

**ANNUAL REPORT**

**PERMIT YEAR 3 (JULY 1, 2015 TO JUNE 30, 2016)**

**FOR**

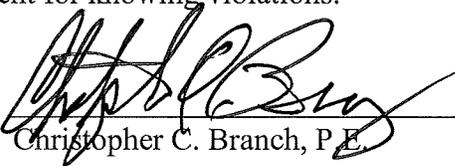
**CITY OF PORTLAND, MAINE**



**Original Date of SWPMP: February 28, 2014**  
**Permit Year 1 Annual Report Date: October 1, 2014**  
**Permit Year 2 Annual Report Date: September 15, 2015**  
**Permit Year 3 Annual Report Date: September 15, 2016**

**REQUIRED SIGNATURE**

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature:  \_\_\_\_\_ Date: 9/14/16 \_\_\_\_\_  
Christopher C. Branch, P.E.

Title: Director of Public Works

## MINIMUM CONTROL MEASURES

### INTRODUCTION

Actions completed for the permit year are provided in this Annual Report for each best management practice (BMP). Actions completed or status updates for the permit year being reported on are indicated in bold italics for each applicable BMP. If no action was required during the permit year, none are listed. A general status of compliance with the permit conditions should be assumed, unless otherwise indicated in the actions completed or status update statement; any applicable changes to the identified BMPs or measurable goals are indicated in the actions completed or status update statement.

### I. PUBLIC EDUCATION AND OUTREACH ON STORMWATER IMPACTS

The City of Portland will fulfill the requirements for Public Education and Outreach through participation in the Interlocal Stormwater Working Group (ISWG) and the permittee's provision of funding to the ISWG for Public Education and Outreach services, as described in this section of the plan.

Responsible Party: Portland Public Services in cooperation with ISWG Education Coordinator.

#### A. *Goals*

1. To raise awareness that polluted stormwater runoff is a significant source of water quality problems for Maine's waters;
2. To motivate people to use Best Management Practices (BMPs) which reduce polluted stormwater runoff; and
3. To reduce polluted stormwater runoff as a result of increased awareness and utilization of BMPs.

#### B. *Required Best Management Practices*

##### 1. **Raise Awareness.**

Each permittee or stormwater group of which the permittee is a member shall have a new Awareness Plan or revise an existing Plan to raise awareness of stormwater issues for a target audience outside of municipal government. The permittee shall submit draft Stormwater Awareness Plan to the Department for review and approval by December 1, 2013. The Stormwater Awareness Plan is considered approved as of February 1, 2014, unless the permittee receives written communication from the Department indicating non-approval.

##### ***Completed***

- i. In Permit Year 1, the City and ISWG will continue select awareness activities from previous permit cycle which will include; maintaining a

link to [www.thinkbluemaine.org](http://www.thinkbluemaine.org) on municipal website; participation in a statewide media campaign to include 12 months of television advertisements and 12 months of online advertisements that direct to [www.thinkbluemaine.org](http://www.thinkbluemaine.org); and promote their approved public event.

*Actions Completed Permit Year 1: Refer to the Permit Year 1 Summary of Minimum Control Measures 1 & 2 in Appendix A-1.*

*Actions Completed Permit Year 2: Although not reported in Permit Year 1, the Engineering Services Manager attended four Interlocal Stormwater Working Group (ISWG) meetings, the Water Resources Manager attended one, and the Stormwater Program Coordinator attended six. In Permit Year 2, the Engineering Services Manager attended two ISWG meetings, the Water Resources Manager attended five, and the Stormwater Program Coordinator attended eight ISWG meetings.*

***Actions Completed Permit Year 3: In Permit Year 3, the Water Resources Manager attended 1 ISWG meeting, the Stormwater Engineer attended 1 meeting, the Engineering Services Manager attended 1 meeting and the Stormwater Program Coordinator attended all 6 meetings.***

***Completed***

- ii. In Permit Year 1, the City and ISWG will refine and revise the Awareness Plan.

*Actions Completed Permit Year 1: Refer to the Permit Year 1 Summary of Minimum Control Measures 1 & 2 in Appendix A-1.*

- iii. In Permit Year 1-5, the City will implement Awareness Plan elements internally or through ISWG partnerships consistent with the Awareness Plan.

*Actions Completed Permit Year 1: Refer to the Permit Year 1 Summary of Minimum Control Measures 1 & 2 in Appendix A-1.*

*Actions Completed Permit Year 2: The City of Portland provided education activities focused on keeping water clean at the Green Neighbor Family Fest on April 25, 2015. Refer to the Permit Year 2 Summary of Minimum Control Measures 1 & 2 in Appendix A-2.*

*In addition to awareness activities reported in Appendix A-2, the City also coordinated two local storm drain stenciling events as described below:*

- *Girl Scout Troop 1507 stenciled 32 catch basins in the Sagamore Village neighborhood within the Capisic Brook watershed on 10/5/14. The 90-minute stenciling effort consisted of 8 Girl Scouts and 2 leaders (a Troop Leader and a teen assistant).*
- *Woodard & Curran, Inc. collaborated with the City to host a Maine Youth Leadership storm drain stenciling event where 64 catch basins were stenciled in several neighborhoods off Congress Street and Westbrook Street, including Garrison Street, Tide Mill Road, Old Mast Road, Cobb Avenue, Westbrook Street, River's Edge Drive,*

*Stroudwater Road, Roundabout Road, Kingsmark Lane, Spar Lane and Buttonwood Lane on 5/30/15. The group consisted of 12 students and 5 adult volunteers.*

- *Additional awareness activities were completed as part of the Greener Neighborhoods Cleaner Streams program as described in the 2014-2015 Summary Report in Appendix B.*

***Actions Completed Permit Year 3: Refer to the Permit Year 3 Summary of Minimum Control Measures 1 & 2 in Appendix A-3.***

***In addition to awareness activities reported in Appendix A-3, the City also supported and/or participated in the following awareness events:***

- *Provided support to the Royal Bank of Canada and Friends of Casco Bay sponsored storm drain stenciling effort on 6/2/2016. Volunteers marked 94 catch basins in the Downtown/Old Port area.*
- *Supported a Yelp Maine and Friends of Casco Bay sponsored storm drain stenciling event in East Bayside on 6/18/2016. The Stormwater Program Coordinator gave a short presentation about stormwater, wastewater, CSOs, store and treat systems and green infrastructure to 15 participants prior to the event. Volunteers then marked 152 catch basins between Marginal Way, Franklin Street, Congress Street and Washington Avenue.*
- *Additional awareness activities were completed as part of the Greener Neighborhoods Cleaner Streams program as described in the 2015-2016 Summary Report in Appendix B.*
- *The DPW Water Resources Division partnered with the Portland Water District to mail approximately 18,000 educational fliers along with water bills sent in May/June 2016. The two-sided “bill stuffer” featured information about proper management of fats, oils & grease (FOG) on one side and proper pet waste disposal on the other, noting their impacts on the City’s systems and water quality. See Appendix A-3.*

- iv. In Permit Year 5, the City with its ISWG partners will evaluate Awareness Plan and prepare to modify for next permit cycle.

***No action required Permit Years 2-4.***

Reporting: The permittee shall include a review of the Stormwater Awareness Plan outreach efforts in each of its Annual Reports.

## **2. Raise Municipal Permit Awareness.**

Permittee shall develop and implement an education program aimed at municipal staff, employees or volunteers. The permittee shall begin implementation of the Permit Awareness Plan within one week of its approval. The permittee shall submit

the draft Permit Awareness Plan to the Department for review and approval. The Permit Awareness Plan is considered approved as of March 1, 2014, unless the permittee receives written communication from the Department indicating non-approval.

**Completed**

- i. In Permit Year 1 and by January 6, 2014 the City will submit a plan to DEP through ISWG to raise permit awareness. Unless DEP responds in writing or verbally otherwise, as of March 1, 2014 the Awareness Plan is considered approved and implementation of the Permit Awareness Plan will begin.

*Actions Completed Permit Year 1: Refer to the Permit Year 1 Summary of Minimum Control Measures 1 & 2 in Appendix A-1.*

**Not Applicable**

- ii. In Permit Year 1, the City and ISWG will assess or utilize existing assessments of the target audience to document baseline level of action by which the implementation of the Permit Awareness Plan can be measured.

*Actions Completed Permit Year 1: This measurable goal was erroneously included and is not applicable to this best management practice. Since the Municipal Permit Awareness Plan is a new Plan, a pre-survey of ISWG representatives will be conducted this fall in Permit Year 2 for the baseline measure.*

- iii. In Permit Year 2-4, the City will implement Permit Awareness Plan elements internally or through ISWG partnerships.

*Actions Completed Permit Year 2: An interdepartmental meeting was held on 5/20/15 (see VI.B.1.i for more information). Refer to the Permit Year 2 Summary of Minimum Control Measures 1 & 2 in Appendix A-2.*

*Actions Completed Permit Year 3: Refer to the Permit Year 3 Summary of Minimum Control Measures 1 & 2 in Appendix A-3.*

*In addition the Water Resources Manager gave the City Council a presentation on the wastewater & stormwater compliance programs on 4/4/2016.*

- iv. In Permit Year 5, the City with its ISWG partners will evaluate Permit Awareness Plan and prepare to modify for next permit cycle.

Reporting: The permittee shall include a review of the Permit Awareness Plan outreach efforts in each of its Annual Reports.

### **3. Target BMP Adoption**

Each permittee or stormwater group of which the permittee is a member shall have a new or revised Adoption Plan with the goal of promoting behavior change through the implementation of BMPs. The permittee shall submit the draft BMP Adoption Plan to the Department for review and approval by November 1, 2014. The BMP Adoption Plan is considered approved as of, January 15, 2014 unless the permittee receives written communication from the Department indicating non-approval.

**☑ Completed**

- i. In Permit Year 1, the City and ISWG will assess or utilize existing assessments of the target audience to document baseline level of action by which the implementation of the BMP Adoption Plan can be measured.  
*Actions Completed Permit Year 1: Refer to the Permit Year 1 Summary of Minimum Control Measures 1 & 2 in Appendix A-1.*

**☑ Completed**

- ii. In Permit Year 1, the ISWG will continue BMP adoption activities carried out in Permit Year 5 (2008-2013) of the previous BMP Adoption Plan. Activities include: Providing a minimum of six adult education classes throughout the ISWG region per year; Work with a minimum of 21 retail locations to provide healthy lawn care education to consumers; Maintain the YardScaping website hosted on CCSWCD's website; and Provide information to targeted neighborhoods via direct mail, neighborhood canvassing, socials or other means.  
*Actions Completed Permit Year 1: Refer to the Permit Year 1 Summary of Minimum Control Measures 1 & 2 in Appendix A-1.*

**☑ Completed**

- iii. In Permit Year 1 and by November 1, 2013 the City will submit a plan to DEP through ISWG to encourage the targeted audience to adopt or practice specific BMPs that will reduce stormwater pollution.  
*Actions Completed Permit Year 1: Refer to the Permit Year 1 Summary of Minimum Control Measures 1 & 2 in Appendix A-1.*

- iv. In Permit Years 2-4, the City will implement BMP Adoption Plan elements internally or through ISWG partnerships.

*Actions Completed Permit Year 2: Refer to the Permit Year 2 Summary of Minimum Control Measures 1 & 2 in Appendix A-2.*

***Actions Completed Permit Year 3: Refer to the Permit Year 3 Summary of Minimum Control Measures 1 & 2 in Appendix A-3.***

- v. In Permit Year 5, the City with its ISWG partners will evaluate BMP Adoption Plan and prepare to modify for next permit cycle.

Reporting: The permittee shall include a review of the BMP Adoption Plan in each of its Annual Reports.

#### **4. Enhanced Education and Outreach**

Permittees will enhance their education and outreach effort in their impaired or priority watershed or work to address a stormwater pollutant issue of regional or statewide significance. Permittees with an impaired waterbody may either target a specific activity that if successfully addressed will improve and/or protect water quality in the priority or impaired watershed(s) or the permittee may choose instead to work singly or collaboratively on a common regional or statewide stormwater pollutant issue. The goal of the effort should be to reduce or eliminate the pollutant(s) of concern.

**Completed**

- i. In Permit Year 1 and by July 1, 2014, the City shall develop a draft plan on how it plans to meet either permit requirement as stated above.  
*Actions Completed Permit Year 1: Refer to the Permit Year 1 Summary of Minimum Control Measures 1 & 2 in Appendix A-1.*
  
- ii. In Permit Year 2-4, in conjunction with the ISWG the City will implement the Priority Watershed Plan.  
*Actions Completed Permit Year 2: Refer to the Permit Year 2 Summary of Minimum Control Measures 1 & 2 in Appendix A-2.*  
  
*Actions Completed Permit Year 3: Refer to the Permit Year 3 Summary of Minimum Control Measures 1 & 2 in Appendix A-3. Also refer to the summary of the Greener Neighborhoods Cleaner Streams program for 2015-2016 included in Appendix B.*
  
- iii. In Permit Year 5, the City with its Salt Manager partners will evaluate program and prepare to modify for next permit cycle.

Reporting: Review of Targeted Outreach in Priority Watershed Plan will be included in Annual Reports starting in permit year two. The review will include process and impact indicators as outlined in the Targeted Outreach in Priority Watershed Plan. In permit year five an analysis of the process and impact indicators of the Targeted Outreach in Priority Watershed Plan will be provided.

#### **C. Additional Best Management Practices**

##### **1. School Outreach**

**Completed**

- i. In Permit Year 1, continue the incorporation and implementation of “It’s all connected” school curriculum in elementary and/or middle schools.

*Actions Completed Permit Year 1: School outreach was conducted by Deb Debiegun, District Educator, Cumberland County Soil & Water Conservation District, ddebiegun@cumberlandswcd.org, 207-892-4700 x 101 and Sarah Plummer, Environmental Education Coordinator, Portland Water District, splummer@pwd.org, 207-774-5961 x 3324. The following is a summary of youth education activities completed in Portland during the 2013-2014 school year:*

*Total students: 464*

*Total contact hours: 675 (CCSWCD: 300, PWD: 375)*

*Lesson topics: Watersheds, water cycle and distribution, watershed delineation, nonpoint source pollution, stormwater, stewardship, water quality testing, geology and erosion, soil as water pollution, Forestry Day: forest’s ability to filter water, ocean’s currents and earth’s rotation.*

*Schools: Lincoln Middle School, State Street Preschool, Presumpscot Elementary School, Catherine McAuley High School, Learning Works program participants at Presumpscot, Ocean Avenue and Reiche Elementary Schools*

*Educator: PWD, CCSWCD*

*In addition, the Stormwater Program Coordinator met with students at the following three schools to talk about stormwater and water pollution prevention: King Middle School on 3/7/14, Lyseth Elementary School on 5/8/14, and Reiche Community Elementary School on 7/17/14. The City also participated in storm drain stenciling events with students from the Lyseth Elementary School on 5/12/14 and King Middle School on 5/20/14 (50 catch basins stenciled on 5/20/14).*

- ii. In Permit Years 2-5, as funding permits, continue the incorporation and implementation of “It’s all connected” school curriculum in elementary and/or middle schools.

*Actions Completed Permit Year 2: A total of 752 students from eight schools received 1,857 contact hours on various water quality and stormwater related lesson topics. Refer to the summary of ISWG Youth Education Activities for Portland in the Permit Year 2 Summary of Minimum Control Measures 1 & 2 in Appendix A-2.*

*Actions Completed Permit Year 3: A total of 2,518 students from eight schools & one Girl Scout Troop received 4,219 contact hours on various water quality and stormwater related lesson topics. Refer to the summary of ISWG Youth Education Activities for Portland in the Permit Year 3 Summary of Minimum Control Measures 1 & 2 in Appendix A-3.*

*In addition to awareness activities reported in Appendix A-3, the City also supported and/or participated in the following stormwater outreach,*

*education and participation events:*

- *The Friends of Casco Bay helped students from Deering High School to conduct a storm drain stenciling event on 10/15/2015. The 15 volunteers marked 34 catch basins along residential streets near the school.*
- *Three Water Resources staff participated in King Middle School's "Water ME" expedition day on 3/31/2016. Staff met with students at several locations around the Back Cove to talk about the City's water quality challenges and its efforts to address them. Sixty-four students and at least 6 adults learned about stormwater, wastewater, CSOs, store and treat systems and green infrastructure, such as the Back Cove rain garden.*
- *The Stormwater Program Coordinator hosted a learning station for the Longfellow Elementary School water quality field day at Capisic Pond Park on 4/29/2016. Approximately 8 adults and 60-70 students attended one of the 20-minute sessions, which included a demonstration about the relationship between impervious area and stormwater runoff, water pollution and stormwater pollution prevention.*
- *The Stormwater Program Coordinator gave a short presentation about stormwater, wastewater, CSOs, store and treat systems and green infrastructure to 3 Deering High School science class students on 6/17/2016.*

Reporting: Annual reports will include the total number of students reached, which schools were involved and the lesson topics that were covered.

## **II. PUBLIC INVOLVEMENT AND PARTICIPATION**

The City will fulfill the requirements for Public Involvement and Participation through participation in and partial funding of the Interlocal Stormwater Working Group (ISWG) for Public Involvement and Participation services, or through directly fulfilling the requirements, as described in this section of the plan. The City will involve the public in both the planning and implementation process of improving water quality and reducing quantity via the stormwater program.

Responsible Party: Portland Public Services in cooperation with ISWG Education Coordinator.

### **A. Goal**

Involve the public in both the planning and implementation process of improving water quality via the stormwater program.

### **B. Required Best Management Practices**

## 1. Public Notice Requirement

The permittee shall comply with applicable state and local Public Notice requirements using effective mechanisms for reaching the public, and comply with the public notice requirements of the Maine Freedom of Access Act, 1 M.R.S.A. §§ 401 et seq. (“FOAA”) when the permittee involves stakeholders in the implementation of this General Permit. The permittee shall document the meetings and attendance through the annual report as a way of measuring this goal.

**Completed**

- i. The City and ISWG will follow state and local Public Notice requirements for both ISWG and individual Stormwater Program Management Plan elements.

*Actions Completed Permit Year 1: The Plan was approved by City Council on December 16, 2013 after the second reading (following the usual City notification process). The final version dated February 28, 2014 incorporated minor changes requested by the DEP and did not require further public notice. The final Plan was posted on the Maine DEP’s website.*

- ii. The City and ISWG will follow state and local Public Notice requirements when involving stakeholders in the implementation of the Small MS4 General Permit.

*Actions Completed Permit Year 1: No public notice requirements were invoked.*

*Actions Completed Permit Year 2: No public notice requirements were invoked; however, several meetings with the Finance Committee and City Council were held between August 2014 and January 2015 to discuss the costs associated with the stormwater management programs, including the MS4 program and Combined Sewer Overflow Abatement program and how a stormwater service charge could be used to fund these costs. In addition, at least seven other public and neighborhood meetings were held around the City to explain the challenges and present the stormwater service charge program to City Councilors and the residents and businesses in their districts. City staff and representatives from Cumberland County Soil and Water Conservation District (CCSWCD) helped present at these public and neighborhood meetings.*

*All public meetings associated with the stormwater service charge were posted on the City’s webpage and shared with the local news and social media outlets. A flier, describing the stormwater service charge and seven public meeting dates, was sent to all residents and businesses in Portland on 10/20/14.*

*Actions Completed Permit Year 3: On 8/18/2015 the City provided a press release notifying residents and businesses that the Stormwater Service Charge would begin being implemented on 1/1/2016. It included information regarding the stormwater credit manual and how to get more information about the program. This information was also posted to the City's webpage. The Water Resources Manager gave the City Council a presentation on the wastewater & stormwater compliance programs on 4/4/2016. This, as are all public meetings, were noticed on the City website and local media sources.*

Reporting: The annual report will describe compliance with public notice requirements including documentation of meetings and attendance, where applicable.

## **2. Host Public Event**

The permittee or regional stormwater group of which the permittee is a member shall annually host/conduct or participate in a public event. The event must include a pollution prevention and/or water quality theme. The target audience does not need to be the entire urbanized area but should be aimed at a segment of the population that the permittee wishes to reach. The permittee shall include a report of the public event in each of its Annual Reports.

- i. The City and/or City with ISWG will support/host/conduct an annual public event.

*Actions Completed Permit Year 1: The City hosted the third annual Green Neighbor Family Fest, which was held in conjunction with the ISWG-sponsored Urban Runoff 5K race and walk on April 26, 2014. Refer to the Permit Year 1 Summary of Minimum Control Measures 1 & 2 in Appendix A-1 for a summary of this event. The Green Neighbor Family Fest is part of the City's overall Greener Neighborhoods Cleaner Streams Program. A summary of the Greener Neighborhoods Cleaner Streams program for 2013-2014 as well as the Green Neighbor Guide (artistic watershed map) and educational sign that were created as part of the program are also included in Appendix A-1.*

*Actions Completed Permit Year 2: The City hosted the fourth annual Green Neighbor Family Fest, which was held in conjunction with the ISWG sponsored Urban Runoff 5K race and walk on 4/25/2015. The City also formed an Urban Runoff sponsoring team with one municipal member who participated in the race. Additionally, 194 race participants and 15 volunteers provided Portland addresses. The City was provided with 50 posters for distribution (most of which were hung up at City Hall, Public Services, the Cummings Center, public schools, community centers, local grocery stores, coffee shops, and other high-traffic venues). The City Council unanimously passed a City Council Order (140-14/15) recognizing*

*the festival on 2/19/15, waived permit fees for the event, promoted the event on the City website and various social media venues, and provided a display at the festival. Refer to the Permit Year 2 Summary of Minimum Control Measures 1 & 2 in Appendix A-2 for a summary of this event. The Green Neighbor Family Fest is part of the City's overall Greener Neighborhoods Cleaner Streams Program. A summary of the Greener Neighborhoods Cleaner Streams program for 2014-2015 is included in Appendix B.*

*The City, with the assistance of the CCSWCD, held a stormwater open house on 6/16/15 to provide landowners with information about the stormwater service charge, to give them a chance to meet a variety of participating stormwater management consultants, and to let them know that staff are available to answer questions about the credit program and for site visits. Approximately 30 landowners and 10-15 consultants attended this open house held at Deering High School.*

*Refer to Appendix B for a public event held by the City that was associated with its Greener Businesses Cleaner Streams program.*

***Actions Completed Permit Year 3: The City hosted the fifth annual Green Neighbor Family Fest, which was held in conjunction with the ISWG sponsored Urban Runoff 5K race and walk on 4/23/2016. A municipal team of 9 staff participated in the race and 13 municipal volunteers helped with the events. A total of 202 race participants were from Portland. The City was provided with 50 posters for distribution (most of which were hung up at City Hall, Public Services, the Cummings Center, public schools, community centers, local grocery stores, coffee shops, and other high-traffic venues). The City Council unanimously passed a City Council Order (151-15/16) recognizing the festival on 2/1/16, waived permit fees for the event, promoted the event on the City website and various social media venues, and provided a display and child-friendly demonstration about the impacts of impervious cover at the festival. Refer to the Permit Year 3 Summary of Minimum Control Measures 1 & 2 in Appendix A-3 for a summary of this event. The Green Neighbor Family Fest is part of the City's overall Greener Neighborhoods Cleaner Streams Program. A summary of the Greener Neighborhoods Cleaner Streams program for 2015-2016 is included in Appendix B.***

Reporting: The annual report will include description of the event. The report will include process indicators which assess the permittee's planning and execution, as well as impact indicators which assess the effectiveness of the event. The permittee shall also include a comprehensive review of the public events in its fifth year Annual Report that must include an analysis of the process indicators and impact indicators. The Permit Year 5 report will include a comprehensive review of the public event, including an analysis of the process and impact indicators.

## C. *Additional Best Management Practices*

### 1. **Household Hazardous Waste Collection**

The City will continue to offer weekly collection of Household Hazardous Waste between April and November via drop-off at the Riverside Recycling facility. This service is also made available to other communities. Additionally, we accept Universal Waste six days a week year round. This includes fluorescent tubes, compact fluorescents, CRTS & TVs, mercury added items, batteries, and electronics.

*Actions Completed Permit Year 1: The Household Hazardous Waste (HHW) collection program runs from April through November. HHW quantities are reported based on the size of the container used to collect the material (whether or not the containers were filled or partially filled). The total volume of HHW containers paid for during the permit year was 11,613 gallons. The quantity of universal waste that was collected during the permit year includes a total of 5,841 TVs and monitors, 6,383 computers and peripherals, 95,377 feet of fluorescent lamps, 1,911 units of U&O lamps, 6,158 units of other fluorescent lamps, 28,293 pounds of batteries, 4,624 pounds of PCB ballasts, 2,597 pounds of other ballasts, 1,070 pounds of capacitors, and 133 pounds of other mercury containing devices.*

*Actions Completed Permit Year 2: The Household Hazardous Waste (HHW) collection program runs from April through November. HHW quantities are reported based on the size of the container used to collect the material (whether or not the containers were filled or partially filled). The total volume of HHW containers paid for during the permit year was 10,680 gallons. Types of HHW collected include paint, aerosols, pesticides, oxidizers, acids, bases, mercury compounds, solvents, and organics.*

*The quantity of universal waste that was collected during the permit year includes universal waste from both Portland and non-Portland Residents. A total of 6,518 TVs and monitors, 4,619 computers and peripherals, 142,521 feet of fluorescent lamps, 2,225 units of U&O lamps, 7,376 units of other fluorescent lamps, 20,307 pounds of batteries, 1,894 pounds of PCB ballasts, 4,179 pounds of other ballasts, 1,144 pounds of capacitors, and 329 pounds of other mercury containing devices were collected.*

*Actions Completed Permit Year 3: The City continued to offer collection of Household Hazardous Waste every 1<sup>st</sup> Saturday of the month, between April and November, via drop-off at the Riverside Recycling facility. This service is also made available to other communities. There is also an annual HHW collection day for the islands. Additionally, the City accepted Universal Waste at Riverside Recycling facility six days a week year round. HHW quantities are reported based on the size of the container used to collect the material (whether or not the containers were filled or partially filled). The total volume of HHW containers paid for during the permit year was 43,567 gallons. Types of HHW collected include paint, aerosols, pesticides, oxidizers, acids, bases, mercury compounds, solvents, and organics.*

*The following quantities of Universal Wastes include collections from both Portland and non-Portland Residents. During calendar year 2015 a total of 5,341 TVs and monitors, 1,071 computers and peripherals, 5,554 pounds of mixed electronics, 152,375 feet of fluorescent lamps, 7,532 units of U&O lamps, 1,582 units of metal halide & HID lamps, 619 pounds of other fluorescent lamps, 5,616 pounds of batteries, 1,982 pounds of PCB ballasts, 637 pounds of other ballasts, 351 pounds of capacitors, and 41 pounds of other mercury containing devices were collected. During the first half of 2016 an additional 2,185 TVs and monitors, 277 computers and peripherals, 2,786 pounds of mixed electronics, 80,627 feet of fluorescent lamps, 4,885 units of U&O lamps, 603 units of metal halide & HID lamps, 395 pounds of other fluorescent lamps, 2,142 pounds of batteries, 748 pounds of PCB ballasts, 113 pounds of other ballasts, 26 pounds of capacitors, and 2 pounds of other mercury containing devices were collected.*

### **III. ILLICIT DISCHARGE DETECTION AND ELIMINATION**

The City of Portland shall develop, implement and enforce a program to detect and eliminate illicit discharges and non-stormwater discharges within the non-combined sewer MS4 area.

Responsible Party: Portland Department of Public Services.

#### **A. Goal**

Develop, implement and enforce a program to detect and eliminate illicit discharges and non-stormwater discharges.

#### **B. Required Best Management Practices**

##### **1. Revise and Refine a Storm Sewer System Infrastructure Map.**

Permittees subject to the 2008 MS4 General Permit shall continue to keep their map(s) current and ensure that maps are reviewed for any updates at least annually.

- i. By the end of Permit Year 1, the City will review its respective storm sewer infrastructure maps in order to identify key storm sewer attributes and identify targeted geographic or data attributes for revision. Attributing will likely focus on identifying and clarifying MS4 outfalls and state, City or private ownership.

*Actions Completed Permit Year 1: Mapping of both the storm drain and sewer systems is ongoing. The City is in the process of reviewing its storm sewer infrastructure maps. During Permit Year 1, the City hired Woodard & Curran to assist in the development of a comprehensive stormwater/drainage CMOM plan that includes a GIS data gap analysis (e.g. missing data,*

attributes, need for database improvements, etc.), system condition assessment (based on sample investigations), drainage system CIP, O&M program, and staffing/work flow analysis, etc. This process has continued into Permit Year 2.

*Actions Completed Permit Year 2: The City began an overhaul of its asset management systems including the GIS, which houses the sewer and storm drain data. This process included the hiring of new asset management staff and conversion of the GIS dataset to the industry standard Esri Local Government Information Model (LGIM), which was completed in April 2015. In addition, the City is developing new data QA/QC protocols and has adopted the National Association of Sewer Service Companies' (NASSCO) standards for sewer and storm drain evaluation and data collection.*

*The GIS stormwater data gap analysis and system condition assessment were put on hold while the aforementioned improvements were being made to the GIS. In Permit Year 3, the City is converting a significant amount of sewer and storm drain CCTV assessment data to the new LGIM GIS format and NASSCO condition rating format. This will greatly improve the City's ability to complete the stormwater data gap analysis and system condition assessment.*

*The last large-scale revision date occurred in April 2015, but the City is actively updating its sewer and storm drain data when as-built plans for municipal projects become available or when deficiencies are identified during desktop or field investigation. The addition of dedicated asset management personnel will greatly improve Portland's ability to update and maintain the sewer and storm drain GIS.*

*Actions Taken for Permit Year 3: In year 3 the City has continued to improve their GIS workflows and editing processes. In the fall of 2015, the City began the implementation of their new CCTV software ITpipes. This software has a strong integration with the City's GIS. CCTV inspections include GIS attribute updates. Attribute update information can now be synced directly between ITpipes and GIS greatly increasing the efficiencies of updating formerly null attribute data with data that is observed in the field. As part of the implementation of ITpipes, GIS data needed to be corrected and cleaned up in order for the software to function properly. That process is nearly completed and will allow for streamlined integration between GIS and ITpipes.*

*The City is also taking advantage of ArcGIS Online and web mapping applications to update GIS information in the field using iPads. For example, in 2015 the City hired an outside contractor to CCTV approximately 80,000 linear feet of pipe. The Asset Management team created a web mapping application that allowed the contractor to not only identify which pipes they had inspected but it also allowed the contractor to*

*identify areas that had issues such as missing manholes in GIS, broken lines in GIS etc. and flag those so that the Asset Management Technician could then view those flags and correct the issues quickly. This was a great improvement over the paper maps and illegible notes that were historically passed between the contractor and the City.*

*As part of the City's Computerized Maintenance Management System (CMMS), Cityworks and GIS are now fully integrated and the City is now taking advantage of the ability to implement asset based work orders and inspections. This will allow the City to not only create and track work orders and inspections but it will also allow the City to update GIS attributes using their CMMS.*

- ii. In Permit Years 2-5, the City will continue to update both geographic and data attributes of its MS4 storm sewer system GIS geodatabase (as necessary).

*Actions Completed Permit Year 2: See III.B.1.i.*

*Actions Completed Permit Year 3: See III.B.1.i.*

Reporting: Annual update of mapping efforts undertaken in the Permit Year.

## **2. Maintain Non-Stormwater Discharge Ordinance.**

Permittees subject to the 2008 MS4 General Permit shall to the extent allowable under State or local law, continue to implement, and provide annual reporting of the permittee's non-stormwater discharge ordinance that effectively prohibits, unauthorized non- stormwater discharges into the permittee's storm sewer system. This BMP will also include coordination with the Portland Water District regarding water line and hydrant flushing to determine if either is a significant contributor of pollutants to the MS4.

### **Completed**

- i. In Permit Year 1, coordinate with the Portland Water via mail or in person to evaluate whether or not water line or hydrant flushing from potable water sources is a significant contributor of pollutants to the MS4. Evaluation will include the following action:
  - o Provide the Portland Water District with a location map showing the extent of the municipal urbanized area, and the highest priority watershed(s).
  - o Gather information from the Portland Water District, specific to the urbanized area and priority watershed(s), including the number and location of hydrants and details on water line or hydrant flushing that outlines procedures, including how often flushing occurs,

typical flow rates and duration, where the water is conveyed, what the target or actual chlorine concentrations are, and what best practices are employed to prevent erosion and address potential pollutants.

*Actions Completed Permit Year 1: A meeting with the Portland Water District (PWD) to begin developing an ISWG-wide hydrant flushing policy was held at the PWD on January 17, 2014 (Doug Roncarati attended). The PWD was provided with a map showing the urbanized area for all the ISWG communities. The meeting included introductions and overview, PWD practices, and a discussion regarding procedures to determine hydrant significance. As a result of the meeting, PWD was planning to meet with each community, starting with the 2014 target communities and to develop GIS maps with their specific hydrants, infrastructure, and stream locations.*

*PWD contacted the City to request the latest data, including storm drains, catch basins, and priority/sensitive surface waters. Using the available PWD data and its own GIS data, the City identified 123 hydrants that are located within the Capisic Brook watershed with an additional 57 hydrants located within 250 feet of that boundary. It should be noted that not all of these hydrants are likely to discharge to the separated storm drain system that discharges to Capisic Brook. The City's GIS Steering Committee is working on a means to more formally and regularly share GIS data between City departments and PWD; this will help keep available data current so any required analysis can be done more effectively and efficiently by both parties. The City and PWD have an on-going working relationship and will ensure that PWD has the necessary information to move toward formalizing a process for hydrant flushing in a manner acceptable to DEP.*

*Actions Completed Permit Year 2: Hydrants in Portland are flushed by the Portland Water District on a rotating basis. PWD's stated goal is to flush one third of the distribution mains in its service area on an annual basis, which translates to a portion of water mains within Portland each year. Portland Water District's primary best management practice is to dechlorinate flush water using Vita-D tablets or LPD-CHLOR and a flow diffuser that aids in dissipating the residual, prior to discharge, every time they flush a hydrant. An additional best practice includes land application to further dissipate residual, where practical. The PWD uses*

*GIS data and their online map viewer (AIM Spatial II) to identify best areas for land application.*

*The ISWG-MS4 Hydrant Flushing Meeting was held at the Portland Water District Nixon Training Center on January 29, 2015. Items discussed included a review of efforts to date and MS4 Permit requirements, Portland Water District efforts to date, and Maine Water Company and Maine Water Utilities Association updates/input, as well as next steps. The Stormwater Program Coordinator (Doug Roncarati) attended the meeting. A draft 2014 Summary Report of District Flushing Activities was provided to the ISWG at the January 2015 meeting, which included information as required by the Stormwater Program Management Plan language listed above.*

**Completed**

- ii. By no later than December 30, 2014, unless otherwise approved by the Department, using available GIS or other municipal mapping information, the location of hydrants will be added to the storm sewer system infrastructure map to aid in the evaluation; the City will work with the Portland Water District to prioritize the hydrants or water lines that have the potential to cause exceedances of the ambient water quality criterion for chlorine when discharged through the MS4. The City will request a water quality progress report that documents what best management hydrants as well as the Portland Water District's testing results of the total residual chlorine for any such discharges.

*Actions Completed Permit Year 2: The location of hydrants is included in the City's GIS, and the City and Portland Water District (PWD) periodically share sewer, storm drain, hydrant, and water line data. The PWD is aware that hydrant flushing activities outside of the areas served by Portland's combined sewer system (mainly on the Portland peninsula) could directly or indirectly, via the MS4, impact surface waters. The PWD is using dechlorination measures to eliminate or minimize the impact to surface waters (refer to III.B.2.i for more information).*

- iii. Permit Years 3-5, the City will request an annual water quality progress report that documents what best management practices are being implemented for flushing activity at the prioritized hydrants as well as the Portland Water District's testing results of the total residual chlorine for any such discharges.  
*No action required during Permit Years 1 and 2.*

***Actions Completed Permit Year 3: As reported in Portland’s response to DEP’s Permit Year 2 MS4 Annual Report dated 4/13/2016, The City has continued to collaborate with PWD and the ISWG to develop a hydrant flushing methodology that protects water quality. Jonathan Earle, PWD’s Water Distribution System Manager provided the City with a summary of their efforts to develop this BMP (i.e.: Memo dated 2/26/2016). It is our understanding that the test results of PWD’s current dechlorination procedures for hydrant flushing consistently yield TRC concentrations below the 50 ppb level.***

- iv. If it is determined by the end of Permit Year 3, that water line or hydrant flushing is a significant contributor of pollutants to the MS4, and the Portland Water District has demonstrated that it will not voluntarily implement BMPs in order to reach ambient water quality criteria for chlorine, the City will, as soon as practicable or by no later than the end of Permit Year 4, update their IDDE ordinance to allow enforcement of discharges that cause exceedances of water quality criteria.  
*No action required during Permit Years 1 and 2.*

***Actions Completed Permit Year 3: See III.B.2.iii. In addition, on 6/7/2016 Portland’s Stormwater Program Coordinator witnessed PWD staff using the aforementioned dechlorination BMPs when hydrant flushing on Marginal Way. The PWD workers informed staff that they found the ascorbic acid (Vitamin C) protocol easy to use and very effective at eliminating residual chlorine. The Stormwater Program Coordinator contacted Mr. Earle via email later the same day to thank PWD for their efforts to protect water quality.***

- v. Permit Year 1-5, continue to maintain and enforce non-stormwater discharge ordinance.  
*Actions Completed Permit Year 1: The City continued to implement their non-stormwater discharge ordinance. Although seven spills and complaints were received (from City staff, Dispatch, or residents), logged and investigated, no enforcement under the non-stormwater discharge ordinance was required. Most of the events that were logged occurred in combined system locations and were contained so that they had little or no impact on the system.*  
*Actions Completed Permit Year 2: The City continued to implement Article II Prohibited Discharges (i.e. non-stormwater discharges) under their Storm Water Ordinance (Chapter 32). The City worked with several businesses to address potential illicit discharges, and the Stormwater Program Coordinator worked with City personnel to address several lapses in the use of pollution prevention/good housekeeping BMPs as described below:*

- *Successfully addressed problems associated with handling, storage, and removal of grain by-products at one large and several small breweries, collaborating with Maine DEP's Industrial Stormwater Inspector, when appropriate.*
- *Investigated an anonymous report of illegal antifreeze disposal in a catch basin, but no evidence found. Circulated "no dumping" informational fliers and Capisic Brook Watershed maps around this residential neighborhood.*
- *Talked with a property manager of several large properties about the pros and cons of using snow melting equipment for snow removal including the potential stormwater and air quality impacts.*
- *Investigated a report that a resident had been dumping used motor oil into a catch basin on Florida Avenue. Evidence of oil was found in a single catch basin, which was pumped. City personnel circulated "no dumping" fliers and talked with residents on Florida Avenue about the problem of illegal dumping including the cost of cleanup.*

*Formal enforcement action under the Ordinance was not necessary.*

***Actions Completed Permit Year 3: The City continued to implement Article II Prohibited Discharges (i.e. non-stormwater discharges) under their Storm Water Ordinance (Chapter 32). The City worked with several businesses to address potential illicit discharges, and the Stormwater Program Coordinator worked with City personnel to address several lapses in the use of pollution prevention/good housekeeping BMPs as described below:***

- ***Followed up on several small breweries regarding implementation of BMPs for handling and storage of grain by-products***
- ***Collaborated with Portland's Industrial Pretreatment Coordinator and Maine Multi-sector Stormwater Program inspector to follow up with an accidental discharge of air scrubber cleaning solution (sodium hypochlorite & sodium hydroxide) to the MS4 during maintenance activities at a food processing plant.***
- ***Addressed improper management of brick dust/debris on a sidewalk reconstruction project on Spring Street***
- ***Collaborated with MDOT to address the results of improper application of reflective green beads intended to demarcate bicycle lanes on Forest Avenue by Exit 6. Large quantities of beads lifted during the morning commute and accumulated in the gutter lines, catch basins, sidewalks and esplanade. The quick, coordinated response from MDOT ensured that the contractors cleaned up the material prior to a significant rain event.***
- ***Addressed a complaint about a pickup truck leaking automatic transmission fluid on Olympia Street near a storm drain. Included multiple site visits, educational materials and conversations with neighbors and residents on the street, who were also provided with educational materials about stormwater pollution prevention.***
- ***DPW staff coordinated with Maine DEP staff to clean up a diesel spill from a leaking ambulance at a gas station on the corner of Brighton Avenue and Essex Street. The spill was partially absorbed***

*by snow & ice along the curb line and mostly captured in the catch basin, which had outlet protection to control floatables. The Stormwater Program Coordinator asked the DEP inspector to have Clean Harbors pump out the catch basin, because the storm drain discharges to Capisic Brook, the City's priority UIS Watershed.*

- *Responded to a complaint about an oily sheen on Tate Street and determined that the cause was a street sweeper with a blown hydraulic line. Heavy rain hampered cleanup, but sand was applied to absorb the residual and the street was swept again.*
- *PWD staff reported seeing a tile and grout cleaning business running a hose to a separated storm drain catch basin on Canco Road. The owners/operators complied with the Stormwater Program Coordinator's request to cease the discharge. They explained that they thought it was alright to discharge to the catch basin because it was not marked "no dumping" and was connected to the combined sewer system (evidently standard industry practice). They use such large amounts of very hot (200+ degree) water with diluted biodegradable Citrasolv cleaner that recapture using a tank truck would be impractical. They were informed that they should NEVER discharge to ANY catch basin, ever. Reviewed the potential fines for under the ordinance. They were told that when operating in Portland they should contact DPW ahead of time to coordinate discharge to a sanitary sewer that can handle the temperature and volume of water from their operation. Recommended that they do the same in other communities.*

Reporting: The annual report will include a status update on the evaluation of water line and hydrant flushing as a significant contributor of pollutants to the MS4 and an update on subsequent actions.

### **3. Continue IDDE program for MS4.**

Permittees subject to the 2008 MS4 General Permit shall continue to implement its prioritized dry weather outfall inspection plan based on drainage areas such as an urban impaired stream watershed, or based on a watershed or sub-watershed that the permittee has identified as having the greatest potential threat to the receiving water. Permittees subject to the 2008 MS4 General Permit shall revise their outfall inspection plan and continue conducting dry weather inspections in different watersheds or sub-watersheds as approved by the Department and evaluate discharges for illicit connections.

The municipality must have a defined procedure/policy or protocol in place that details the steps that must be taken when an illicit discharge is identified during these inspections to locate the source of the illicit discharge and eliminate it.

- i. By end of Permit Year 1, refine and revise outfall inspection plan, inspection areas and timeline.

*Actions Completed Permit Year 1: The outfall inspection plan will be part of the stormwater/drainage CMOM plan that the City is developing. The City conducted dry weather outfall inspections in Capisic Brook, Fall Brook, and Dole Brook watersheds. The following is a summary of dry weather outfall inspections:*

- Thirty one stormwater outfalls were inspected in Capisic Brook, 21 stormwater outfalls were inspected in Dole Brook, and 16 stormwater outfalls were inspected in Fall Brook.*
- No significant issues were noted. Some maintenance needs were identified, such as sediment build-up, damaged outfall pipe, need for brush removal, etc. In addition, minor foam was observed at six outfalls and minor floating scum was visible in the standing water below two outfalls. It is unclear whether the foam was residual from residential car washing or indicative of a larger issue. These outfalls will be monitored to determine if these are persistent issues.*
- Grass clippings, brush and yard waste were sometimes observed dumped down ditches, stream embankments, or on outfalls, making inspection and maintenance difficult. Staff talked with one homeowner about the problem on their property and asked them to remove the yard waste and refrain from dumping in the outfall or in the water resource. In light of this growing maintenance problem, the Stormwater Program Coordinator plans to renew discussions with the Solid Waste Coordinator and Director about expanding the yard waste pick-up program.*
- The City conducted follow-up investigation on an outfall to Capisic Brook based on an EPA Notice of Violation No. 2013-NOV-05. EPA thought they were investigating an inactive CSO outfall that was still showing activity (#40 Sagamore Village at the end of Pinecrest Rd), but the outfall had been entirely removed during a sewer separation project. They were actually taking samples from the new storm drain outfall located in the same vicinity as the old CSO outfall. EPA water quality testing at the storm drain outfall revealed high levels of bacteria, which they thought indicated the presence of CSO activity but that was not the case. DPS staff televised the entire separated storm drain system and nearby sewer system upstream of the outfall and no cross-connections were found. As it turns out, a family of raccoons had constructed a den inside the storm drain and a large amount of scat was present, apparently accounting for the high bacteria counts.*

*Actions Completed Permit Year 2: As noted in Permit Year 1, the outfall inspection plan will be part of the stormwater/drainage capacity, management, operation, and maintenance (CMOM) plan. The stormwater/drainage CMOM plan is still under development, and will be completed in Permit Year 3. For outfall inspections conducted, see III.B.3.v.*

***Actions Completed Permit Year 3: City collaborated with the ISWG subcommittee working on IDDE manual updates, sharing information being developed for Portland's new manual.***

- ii. By end of Permit Year 1, refine and revise (as needed) SOP(s) for dry weather outfall inspection program and opportunistic catch basin investigations.

*Actions Completed Permit Year 1: The SOPs will be revised as needed through the development of the stormwater/drainage CMOM plan. In addition, the SOP will be revised based on the ISWG's process of reviewing/updating the SOPs in Permit Year 2.*

*Actions Completed Permit Year 2: As noted in Permit Year 1, the SOPs will be revised as needed through the development of the stormwater/drainage CMOM plan. The stormwater/drainage CMOM plan is still under development, and will be completed in Permit Year 3.*

***Actions Completed Permit Year 3: Water Resources staff, with the support of a consultant, developed a new Illicit Discharge Detection & Elimination Program Manual, which included work flow SOPs and updated forms for dry weather and opportunistic catch basin investigations.***

- iii. By end of Permit Year 1, refine and revise (as needed) forms and data collection system in place for dry weather outfall inspections.

*Actions Completed Permit Year 1: See III.B.3.ii.*

*Actions Completed Permit Year 2: See III.B.3.ii.*

***Actions Completed Year 3: See III.B.3.ii.***

- iv. By end of Permit Year 1, refine and revise (as needed) policy/procedure or protocol that identifies the steps that must be taken when an illicit discharge is encountered in order to locate the source of the illicit discharge and eliminate it.

*Actions Completed Permit Year 1: See III.B.3.ii.*

*Actions Completed Permit Year 2: See III.B.3.ii.*

***Actions Completed Permit Year 3: See III.B.3.ii.***

- v. In Permit Years 2-5, conduct annual dry weather outfall inspections and opportunistic catch basin inspections within the areas identified in the inspection plan.

*Actions Completed Permit Year 2: The City conducted 32 dry weather outfall inspections within the Capisic Brook watershed, 14 in the Fall Brook watershed, and 1 within the Smith's Creek watershed. Two Capisic Brook outfalls merit additional observation due to the presence of algae or an oily*

*sheen. Illegal yard waste disposal was occurring at several outfalls in the Capisic Brook watershed and maintenance needs were also identified, as follows: trash (4), erosion around/below outfall (4), vegetation in front of outfall needs clearing (1), sediment removal needed (1), pipe repair needed (2), and yard waste dumping (8). No significant water quality issues were identified at the Fall Brook outfalls, but inspectors did note trash, the need to remove vegetation growing in front of several outfalls, and maintenance needs, as follows: trash present (2), vegetation needs clearing (4), sediment removal needed (1), and pipe repair needed (1). No problems were identified at the Smith's Creek outfall in Permit Year 2, unlike in Permit Year 1 when soap foam was present. Since inspections were conducted near the end of the permit year, follow up will be completed in Permit Year 3.*

***Actions Completed Year 3: The City conducted 32 dry weather outfall inspections within the Capisic Brook watershed, 15 in the Fall Brook watershed, and 1 within the Smith's Creek watershed. Only two outfalls within the Fall Brook Watershed required follow-up investigation and work orders were generated for these. One exhibited filamentous algae, green scum and some pipe/seepage flow, while the other was buried by yard waste. Seventeen outfalls, 8 within the Capisic Brook Watershed & 9 within the Fall Brook Watershed warranted work orders for cleaning. Three work orders were generated for outfall repairs in the Capisic Brook Watershed, two for pipe repair/replacement and one for vegetation trimming & yard waste removal.***

Reporting: Inspection results will be documented in a database management system or other recordkeeping system and a summary will be reported in annual reports submitted to the DEP.

#### **4. Open Ditch Illicit Discharge and Septic System Assessment**

Permittees subject to the 2008 MS4 General Permit shall continue to implement an illicit discharge/illicit connection detection program based upon a schedule approved by the Department. Each permittee shall develop a list of septic systems in its highest priority watershed that are 20 years old or greater and which may discharge to the MS4 if the system fails. By June 30, 2017, each permittee shall implement a drive-by evaluation and documentation program of septic systems in its highest priority watershed that are 20 years old or greater and which have the potential to discharge into the MS4. This septic system inspection and documentation program must include a mechanism for addressing any discharges to the MS4 from malfunctioning septic systems.

- i. During Permit Year 1, the City will incorporate a strategy in its overall IDDE plan, for detecting illicit discharges in their open ditch system.

*Actions Completed Permit Year 1: The City is reviewing its overall IDDE plan as part of the drainage/stormwater CMOM and will revise its program to include an open ditch IDDE strategy, noting that only a relatively small portion of the MS4 uses open ditch drainage. Also, the City is engaged in a city-wide review of commercial and residential water and sewer services, which will identify properties that are on septic systems. This information will be compared with existing data for the few septic systems already identified in the priority watershed. It will also help the City to determine which septic systems in other watersheds, due to age and location, might pose a risk to the open ditch system.*

*Actions Completed Permit Year 2: As noted in Permit Year 1, a strategy for detecting illicit discharges in the ditch system will be incorporated into the City's overall IDDE plan, which will be completed as part of the drainage/stormwater CMOM. The stormwater/drainage CMOM is still under development and is expected to be complete in Permit Year 3.*

***Actions Completed Permit Year 3: Incorporated procedures for open ditch system IDDE into the IDDE Program Manual.***

- ii. During Permit Year 1-3, the City will document known septic system areas and include in overall watershed map.

*Actions Completed Permit Year 1: The City has been studying water and sewer connections city-wide to clean up connection records and investigate where properties are on septic systems, or have switched from septic to sewer systems. This information will be used to update the list of septic systems in Capisic Brook watershed and inform follow-up inspections to ensure that any septic systems are operating properly.*

*Actions Completed Permit Year 2: Most of the Capisic Brook watershed is served by the sanitary or combined sewer systems, but a preliminary list of 21 potential septic systems was developed and added to the GIS. This list was reduced to 15 after determining that 6 had connected to the wastewater system. Of the 15 septic systems, 7 are known to be 20 years old or older. Unless the others were repaired in recent years, the remaining 8 will be assumed to be 20 years old or older. In Permit Year 3 staff will contact the owners of these properties to verify that they are still on septic systems and will conduct a windshield survey to assess those systems which have the potential to impact the MS4 or surface water.*

***Actions Completed Permit Year 3: Deferred windshield survey to Permit Year 4 as required by MS4 General Permit.***

- iii. During Permit Year 4, the City will conduct drive by evaluation of septic areas within it highest priority watershed.

Reporting: Annual reports to DEP will include a status report on the development and implementation of the Open Ditch Illicit Discharge and Septic System Assessment.

#### IV. CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

Each permittee shall develop, implement, and enforce a program, or modify an existing program, to reduce pollutants in any stormwater runoff to the regulated small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

Responsible party: Portland Planning and Urban Development with support from Public Services

##### A. *Goals*

Reduce pollutants in any stormwater runoff to the regulated small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Per General Permit Part IV(H)(4a.), the City will rely on either the Maine Construction General Permit or Chapter 500, Stormwater Management.

##### B. *Required Best Management Practices*

###### 1. Notification to Developers.

The City of Portland will maintain procedures for notifying construction site developers and operators of the requirements for registration under the Maine Construction General Permit or Chapter 500, Stormwater Management for the discharge of stormwater associated with construction activities.

- i. During Permit Year 1-5, continue notification procedures currently in place using check-off box notices on building permit applications that notify applicants of the registration requirements.

*Actions Completed Permit Year 1: In addition to the notification described above, the City carefully reviews all development applications as part of their delegated stormwater review authority, to determine whether or not they require stormwater permitting under the MCGP and the City's stormwater standards (based on Chapter 500).*

*Actions Completed Permit Year 2: It should be clarified that the notification is included in the site plan applications, including Level II and III Site Plan and Master Development Plan applications rather than the building permit applications.*

*Level I Site Plans, by definition, fall below the State's MCGP and Chapter 500 thresholds, therefore no notice is necessary. However, Portland has delegated review authority for stormwater and in Section V. of the Technical and Design Standards, the City does regulate stormwater management to a*

*lower threshold to ensure that minor residential projects (single and two-family homes) meet the Basic Standard and Urban Impaired Stream Standard, where applicable. Furthermore, Portland's stormwater service charge provides landowners and developers with additional incentive to manage stormwater on small residential properties.*

***Actions Completed Permit Year 3: Portland continued to notify developers about the Maine Construction General Permit and the City's stormwater standards (based on Chapter 500) as described in Permit Years 1 & 2.***

Reporting: Any system modifications will be summarized in our annual reports.

**2. Document every construction activity that disturbs one or more acres in the City.**

***Completed***

- i. In Permit Year 1, refine and revise tracking system (as needed) to record every activity that disturbs one or more acres

*Actions Completed Permit Year 1: No revisions to the tracking system were necessary. Tracking is built into the City's development review and inspections process.*

*The City documented 23 construction sites that disturbed greater than or equal to one acre. Thirteen of these projects did not require inspections because they were considered stable, idle, complete, or construction had not started yet. The remaining ten projects were inspected a total of 71 times. Erosion and sediment controls were requested at nine sites; no DEP enforcement was required.*

*Actions Completed Permit Year 2: There were 21 construction sites documented that disturbed greater than or equal to one acre. Twelve of these sites did not require inspections because they were considered stable, idle, or complete or construction had not started yet. The remaining nine projects were inspected a total of 61 times. Erosion and sediment control corrections were requested at 8 sites. All corrections were satisfactorily made; no DEP enforcement was required.*

***Actions Completed Permit Year 3: The City documented 27 construction sites that disturbed greater than or equal to one acre. Thirteen of these projects did not require inspections because they were considered stable, idle, complete, or construction had not started yet. The remaining 14 projects were inspected a total of 62 times. Erosion and sediment control corrections were requested at 13 sites and the necessary corrections were made at all sites. Maintenance of silt fences and mulch berms was the most commonly required correction. No Notices of Violation were issued and DEP enforcement assistance was not required.***

Reporting: The system will be used to summarize construction activity to be included in annual reports submitted to the DEP.

### **3. Implement a construction site inspection program.**

Implement site inspections procedures to ensure projects are in compliance with the MCGP and Chapter 500, Stormwater Management. In watersheds of Urban Impaired Streams, and in the permittee's highest priority watershed, inspect the construction activity at least three times with one inspection at project completion to ensure that all post construction BMPs were properly installed, and that final stabilization of the site has been completed. All construction inspections must be properly documented. For other watersheds, inspect the construction activity a minimum of twice, with one inspection at project completion to ensure that all post construction BMPs were properly installed, and that final stabilization of the site has been completed.

**Completed**

- i. By the end of Permit Year 1, refine and revise procedures for construction site inspections.

*The City is implementing a Construction Site Inspection Program to control site runoff. It outlines the required inspections, procedures for non-compliance, third-party reviews, and includes the City's Erosion and Sedimentation Control Handout and Sample Inspection Report. These procedures will be updated as necessary.*

**Completed**

- ii. By the end of Permit Year 1, refine and revise (as needed) a standardized inspection form to ensure documentation of all required inspections.

*Actions Completed Permit Year 1: The City formalized a standardized inspection report that is used for construction sites equal to or greater than one acre. The use of the inspection form is referenced in the Construction Site Inspections Program referenced in BMP IV.B.3.i.*

**Completed**

- iii. By the end of Permit Year 1, refine and revise (as needed) a process for tracking.

*Actions Completed Permit Year 1: No revisions were necessary. The Development Review Services Coordinator from Planning conducts and tracks inspections on private projects.*

Reporting: Inspections will be documented in a database management system or other recordkeeping system and a summary will be reported in annual reports submitted to the DEP.

*Actions Taken Permit Year 3: The City was part of a collaborative ISWG effort to review and revise construction site inspection procedures and tracking forms. Given the many types of construction sites (e.g.: Right of way vs outside right of way, non-emergency & emergency utility work, public vs private development, etc.), responsible parties (e.g.: Inspectors from Code Enforcement, Planning or DPW, MDOT/MTA inspectors, & contract inspectors) and variation in regulatory inspection, tracking & reporting requirements (e.g.: MS4 GP, MCGP, MDOT/MTA GP, etc.) this was a challenge. The City will be trialing a draft inspection form, based on this effort, in Permit Year 4.*

## **V. POST-CONSTRUCTION STORMWATER MANAGEMENT**

Each permittee shall develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. This program shall ensure that controls are in place that will prevent or minimize water quality impacts.

Responsible Party: Portland Public Services with support from Planning and Urban Development

### **A. Goal**

Implement and enforce a program to address stormwater runoff from new development and redevelopment projects that discharge into the City's MS4.

### **B. Required Best Management Practices**

#### **1. Maintain stormwater management ordinance**

To ensure adequate long-term operation and maintenance of post construction BMPs, each permittee subject to the 2008 MS4 General Permit shall continue to implement the latest revision of the post-construction discharge ordinance, effective September 17, 2009, or similar measure approved by the Department.

- i. Permit Year 1-5, continue to maintain and enforce Stormwater Management ordinance.

*Actions Completed Permit Year 1-3: The City continues to implement the post-construction discharge ordinance.*

Reporting: Annual reporting of the City's stormwater management discharge ordinance and any achievements associated with the ordinance, as applicable.

#### **2. Manage inspection program for post construction**

Each permittee shall annually inspect a percentage of post construction BMPs located

in the direct watershed of a lake most at risk from new development or in watersheds of an urban impaired stream. If the owner or operator of a post construction BMP hires a qualified third party inspector, the permittee will have no inspection requirements. If the owner or operator of a post construction BMP does a “self” inspection, the permittee is required to conduct the inspection schedule as shown on schedule in H.5.a.iii.

- i. Permit Year 1-5, the City will continue to rely on third-party inspections consistent with its ordinance and will conduct annual inspections of a percentage of post construction BMPs owned by the City and within its Urban Impaired Stream watersheds, in accordance with schedule outlined in the General Permit.

*Actions Completed Permit Year 1: The City uses a Stormwater Management Device Tracker in the form of an Excel spreadsheet to track projects applicable to the post-construction discharge ordinance; however, the City is in the process of developing a new approach to tracking, mapping, and communicating with BMP landowners using an iPad app that will link with the City’s GIS and Cityworks. The new approach should help DPS and Planning coordinate data collection on projects that have been approved and completed and which require annual report reminders. In addition, as part of the stormwater/drainage CMOM, the City is working to map all city-owned water quality treatment structures, which will improve tracking and maintaining of this infrastructure.*

*In Permit Year 1, 37 sites were required to submit an annual certification, and the City received only one. The one site that submitted their annual report had documented functioning post-construction BMPs, and only routine cleaning of their system was required. For the city-owned post-construction BMPs, staff made visual inspections during maintenance but formal inspections were not conducted. Modifications to the GIS are needed to accommodate a variety of the new green infrastructure systems, so they can be tracked and maintained through the Cityworks work-order system, which is being completed under the stormwater/drainage CMOM.*

*Actions Completed Permit Year 2: The Esri LGIM, see III.B.1.i, does not readily accommodate green infrastructure or specialized stormwater management structures, so the City is developing a new GIS schema that will incorporate existing GIS data and facilitate collection of new data on these systems. The City will consider any additional recommendations about green infrastructure data management in the stormwater/drainage CMOM plan, once it is completed.*

*In Permit Year 2, 42 sites were required to submit an annual certification. These included sites that were fully constructed, had operating private stormwater BMPs, and were approved after the post-construction ordinance was adopted in 2009). The City did not receive any annual inspection reports from the owners/operators of the above referenced sites. Reminder letters were not mailed; however, the City has been working on developing a*

system that will send out reminders (see V.B.2.iii). The City conducted annual inspections on a variety of city-owned BMPs as part of the stormwater/drainage CMOM plan (see VI.B.5.i).

**Actions Completed Permit Year 3:** *The City mailed approximately 75 annual inspection & report reminder letters to property owners with post-construction stormwater BMPs in early June 2016. The notices also reminded these landowners that they might also be eligible to apply for a stormwater service charge credit, under the Credit Manual, but only if they provide proof of annual inspections and maintenance as part of their credit application. As a result of this effort, the City received 26 inspection reports and numerous inquiries regarding the credit program and the inspection & reporting requirement. These inspections were completed in the following watersheds: Capisic Brook = 3, Fall Brook = 4, Dole Brook = 1, Nason's Brook = 6, Long Creek/Stroudwater River = 1, Stroudwater River = 2, Presumpscot River = 1, Fore River = 2, Back Cove = 1 and Casco Bay = 5.*

- ii. In Permit Year 2, refine and revise notification program for third-party inspections of private post-construction BMPs.

*Actions Completed Permit Year 2: See V.B.2.iii.*

**Actions Completed Permit Year 3:** *The third-party inspections program for private post-construction BMPs was revised and implemented as described in V.B.2.i. above. The current tracking and notification process is shown in Appendix A-3. This process will continue to be revised and improved as integration of the City's data management systems continues.*

- iii. In Permit Year 2, refine and revise tracking system (as needed).

*Actions Completed Permit Year 2: In Permit Year 2 the City adopted a stormwater service charge that provides maintenance and reporting incentives, in the form of credits, for both private and public stormwater management systems. Implementation of the credit process will result in additional tracking of private post-construction stormwater management systems. The City will be using a combination of Urban Insight (development review software) and Cityworks (asset management software that links to the GIS) to track stormwater management systems. Customization of Urban Insight will facilitate the process of notifying landowners that their annual inspections reports are due and help the City track these reports as they are received.*

**Actions Completed Permit Year 3:** *See V.B.2.ii. above.*

Reporting: Documentation of all inspections will be maintained by the City. Information to be collected includes:

- The cumulative number of sites that have post construction BMPs discharging into the City’s MS4;
- A summary of the number of sites that have post construction BMPs discharging into the City’s MS4 that were reported to the municipality;
- The number of sites with documented functioning post construction BMPs; and
- The number of sites that required routine maintenance or remedial action to ensure that the post construction BMP is functioning as intended.

### **3. Develop and Implement LID notification procedure.**

Each permittee shall develop and implement a procedure for notifying site developers to consider incorporating low impact development techniques.

**Completed**

- i. Permit Year 1, the City will outline a procedure to notify developers on about LID.

*Actions Completed Permit Year 1: Both Planning and DPS encourage the use of LID practices and green infrastructure at multiple phases of the development review/site planning process. This generally includes one or more pre-application meetings and often one meeting specific to stormwater management, impaired streams, wetlands, and other water quality issues. Although no formal procedure was outlined to date, the intent of this BMP has been completed.*

*Actions Completed Permit Year 2: See V.B.3.ii.*

- ii. In Permit Year 2-5, the City will implement relevant changes to notify developers of LID.

*Actions Completed Permit Year 2: The City continues to encourage developers to use LID practices/green infrastructure during development review/site planning process; however, it should be noted that Section 4 of the City of Portland Technical Manual, specifically subsections 4.5.9 and 4.5.10 (Low Impact Development (LID) Practices), encourages the use of LID methods to manage stormwater on a development site. It also references Portland’s Stormwater Standards (Section 5 of the Manual), which includes Maine DEP’s Chapter 500 General Standards note regarding the use of LID. In addition, the City’s stormwater service charge program provides a strong incentive for developers and property owners to use LID techniques as part of their stormwater management strategy for new and redevelopment projects and for retrofits of existing sites.*

*Actions Completed Permit Year 3: Portland continued to encourage developers to use LID as described in Permit Year 2 (V.B.3.ii.).*

Reporting: The City will provide updates on implementation and any changes to procedure in its Annual Report.

### ***Additional Best Management Practices***

#### **1. Stormwater Control Ordinance**

The City currently utilizes a more stringent version of Chapter 500 that applies post-construction stormwater management BMPs to a broader category of projects (i.e., not limited to activities that result in a land disturbance of greater than or equal to one acre) and applies them city-wide.

*Actions Completed Permit Year 1-2: No specific actions were required under this BMP; however the City continues to utilize this Ordinance.*

*Actions Completed Permit Year 3: In Permit Year 3 the City worked to incorporate Maine DEP's "new" Chapter 500 stormwater regulations into Chapter 5 of its Technical Manual, which was a requirement of the MS4 General Permit and a prerequisite for retaining delegated stormwater development review authority. This effort allowed the Planning Department and Department of Public Works to address ambiguities between the City Land Use Ordinance and the City's application of the State's stormwater regulations, as well as customize the standards to mitigate for existing impervious areas that present challenges to both the combined sewer system and MS4. This process would go on to completion in Permit Year 4, after a Planning Board workshop on July 12, 2016, preliminary review by Maine DEP and Planning Board hearing on July 26, 2016. The approved changes would go into effect on August 26, 2016.*

## **VI. POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS**

Responsible Parties: Portland Department of Public Services

### **A. Goal**

Prevent or reduce pollutant runoff from municipal operations and facilities.

### **B. Required Best Management Practices**

#### **1. Operations at municipally owned grounds and facilities.**

Permittees subject to the 2008 MS4 General Permit shall continue to maintain their inventory of properties, facilities and activities, and continue implementation of their operation and maintenance plans. Copies of the operation and maintenance plans, including vehicle washing BMPs, shall be kept on-site at each facility.

**☑ Completed**

- i. By the end of Permit Year 1, the City will refine and revise its list of and SOPs for municipal facilities, buildings, golf courses, cemeteries, parks and open space owned or operated by the City that have the potential to cause or contribute to stormwater or surface water pollution.

*Actions Completed Permit Year 1: The SOPs were not refined or revised; however, this has been identified as a need in the stormwater/drainage CMOM. Additionally, the ISWG has also recognized the need to update the Pollution Prevention/Good Housekeeping SOPs, and the City will be working with them to do so, after which the City will adapt them to meet their needs.*

*Actions Completed Permit Year 2: The City contracted with the CCSWCD to review the existing operation and maintenance (O&M) plans, assess the needs of a variety of municipal facilities, provide coordinated stormwater pollution prevention outreach to department heads across City departments, and to update the O&M plans. City and CCSWCD staff met on 5/12/15 to prepare for an interdepartmental meeting, which was subsequently held on 5/20/15. The interdepartmental meeting included a review of MS4 requirements with a focus on MCM 6, a discussion of the roles and responsibilities of each department with regard to MS4 compliance, and preparation for municipal site visits. City and CCSWCD staff conducted site visits at a variety of municipal properties and operations between 5/26/15 and 6/12/15 to develop a revised approach for O&M plans that would meet the City's compliance needs.*

- ii. Permit Years 1-5. Update list of facilities and SOPs as needed.

*Actions Completed Permit Year 2: The City and CCSWCD developed a revised approach for updating its O&M plans for municipal facilities and operations. It is anticipated that these revisions will be completed in Permit Year 3.*

*Actions Completed Permit Year 3: The City contracted with the CCSWCD again in Permit Year 3 to continue the process of updating its list of applicable facilities and grounds and refining its SOPs/O&M plans. This work included a preparatory meeting with the City Manager, City staff and the consultant on 1/28/2016 and another interdepartmental meeting on 2/11/2016 attended by 16 department heads and/or supervisory staff, at which the City Manager emphasized the importance of compliance with the MS4 General Permit. See Appendix A-3 for a more detailed summary of this work. Note that the appendices for this summary are omitted to reduce the overall size of the report, but are on file.*

Reporting: Annual reports to DEP each year of the permit will include a status report on the facilities and operations and maintenance procedures.

## 2. Municipal employee training.

The permittee shall report annually on the types of stormwater-related trainings presented, the number of municipal and contract staff that received training, the length of the training, and training effectiveness.

- i. By end of Permit Year 1, revise and refine training needs and materials (as needed).

*Actions Completed Permit Year 1: The determination of what types of training and materials are needed is a focus of the stormwater/drainage CMOM effort that is currently underway.*

*Actions Completed Permit Year 2: As noted in Permit Year 1, the stormwater/drainage CMOM plan will include training recommendations. The stormwater/drainage CMOM plan is still under development and is expected to be complete in Permit Year 3.*

- ii. In Permit Years 1-5 implement municipal employee training program to reduce stormwater pollution potential from municipal operations.

*Actions Completed Permit Year 1: The following municipal training was attended:*

- *Eight City staff attended portions of the Maine Stormwater Conference held at the Marriott at Sable Oaks in South Portland on November 21 and/or 22, 2013.*
- *Twenty one staff attended the training opportunity given by the Cumberland County Soil and Water Conservation District (on behalf of ISWG) at the APWA Highway Congress held in Skowhegan on June 5, 2014. The training was related to preventing pollution from public works activities/facilities.*
- *Three staff attended the Annual Public Works Stormwater Management training provided by the Cumberland County Soil and Water Conservation District (on behalf of ISWG). The training was held at the South Portland Recreation Center on June 19, 2014 and covered information about the important role Public Works play in protecting water resources.*

*Actions Completed Permit Year 2: The following trainings were attended:*

- *Twenty three personnel, primarily from Public Services Department attended the Interlocal Stormwater Working Group Municipal Pollution Prevention & Good Housekeeping training held at the South Portland Community Center on May 14, 2015 from 8:00 a.m. to 10:00 a.m. The training was for managers and municipal employees who work outside with petroleum products, paint, fertilizers, pesticides, and other materials that could pollute local water resources. The training was given by Alison Moody from the Maine DEP and Robyn Saunders from the Cumberland County Soil and Water Conservation District.*

- *Eight Public Works personnel attended the “Time out for Training” given by the Cumberland County Soil and Water Conservation District at the APWA Highway Congress held in Skowhegan on June 4, 2015. The education display at the booth presented common sources of water pollution, focusing on Illicit Discharge Detection and Elimination.*
- *Three personnel attended the full day, New England Water Environment Association (NEWEA) Annual Conference & Exhibit on 1/26/15.*
- *The Stormwater Program Coordinator attended the full-day, Greater Boston Smart Water Technology Seminar on 9/23/14; the two-day, Boston Fostering Sustainable Behavior Workshop with Doug McKenzie-Mohr on 11/17 and 11/18/14; and attended one session on stormwater utilities as a panel member at the Maine Water Conference on 3/26/15.*

### ***Actions Completed Permit Year 3:***

- ***The Winter Maintenance Roundtable held on 9/10/2015 was attended by 8 Portland staff***
- ***DPW held a Snow/Ice Control & Stormwater Pollution Prevention Training (Sno-Pro) lead by Peter Coughlan of Maine Local Roads on 11/2/2015, which was attended by 37 DPW staff***
- ***The Stormwater Program Coordinator attended the Watershed Manager’s Roundtable in Augusta on 11/4/2015***
- ***Nine DPW & Water Resources staff attended the Maine Stormwater Conference on November 16<sup>th</sup>-18<sup>th</sup>, 2015***
- ***Twenty-seven staff from Facilities plus the Stormwater Program Coordinator attended a Facilities-oriented stormwater pollution prevention O&M Plan training on 3/8/2016 conducted by the CCSWCD***
- ***Four DPW staff attended the MDOT Highway Congress & training on 5/2/2016***
- ***The Stormwater Program Coordinator administered a E&SC Re-certification Training session using Maine DEP/JETCC and MS4-based training materials on 5/4/2016: Attended by 7 DPW inspectors & Water Resources staff and 1 Planning Dept. inspector***
- ***Twenty Fleet Services and DPW staff attended a combined Fleet Services SWPPP and SPCC training on 6/21/2016 conducted by the CCSWCD and Stormwater Program Coordinator***
- ***Six City engineers attended an LID Lunch & Learn session for engineers on 6/21/2016 hosted by ACF Environmental and the CCSWCD***

- *Four staff from Facilities, Parks & Open Spaces and DPW attended the annual MS4 Stormwater Pollution Prevention Training held in South Portland on 6/24/2016*

*See Appendix A-3 for additional information. Note that the appendices for this summary are omitted to reduce the overall size of the report, but are on file.*

Reporting: Annual reports to DEP each year of the permit will include a status report on training programs, the types of trainings presented, number of employees and contract staff that received training, the length of the training and training effectiveness.

### **3. Street sweeping.**

The permittee shall develop and implement a program to sweep all publicly accepted paved streets and publicly owned paved parking lots maintained by the permittee at least once a year as soon as possible after snowmelt.

- i. Each permit year the City of Portland will continue a program to sweep all publicly accepted paved streets and publicly owned paved parking lots maintained by the City at least once a year as soon as possible after snowmelt.

*Actions Completed Permit Year 1: The City continued its sweeping program. All city streets were swept three times for a total of 2,160 lane miles swept. Vacuum sweeping was primarily used in Capisic Brook watershed, but was used in the Portland Downtown District as well. It is estimated that 2,688 tons of material was recovered from the streets through sweeping with a basic characterization of sand, leaves, litter, and cigarette butts.*

*“Hot spot” areas in Capisic Brook watershed, such as Warren Ave, Brighton Ave, Bishop St, Forest Ave, and Riverside St were swept more frequently (with a vacuum sweeper).*

*Actions Completed Permit Year 2: The City continued its sweeping program. All city streets were swept four times for a total of 2,160 lane miles swept. Vacuum sweeping was primarily used in Capisic Brook watershed, but was also used in other areas as well (mostly the Portland Downtown District). It is estimated that 2,698 tons of material was recovered from the streets through sweeping, with a basic characterization of sand, leaves, litter, and cigarette butts. Street sweepings are taken to Riverside Recycling Center to be evaluated for beneficial reuse.*

*“Hot spot” areas in Capisic Brook watershed, such as Warren Avenue, Brighton Avenue, Bishop Street, Forest Avenue, and Riverside Street were swept more frequently (with a vacuum sweeper).*

*Actions Completed Permit Year 3: The City continued its sweeping program. All city streets were swept three times for a total of about 5,000 lane miles, using a combination of mechanical and vacuum sweepers. Approximately 1,341 tons of material was recovered from the streets through sweeping, with a basic characterization of sand, leaves, litter, and cigarette butts. Streets in the Capisic Brook watershed were swept four times, totaling about 168 lane miles with about 186 tons of materials of a similar composition collected. Vacuum sweeping was primarily used in the Capisic Brook watershed, but was also used in other areas (mostly the Portland Downtown District). “Hot spot” areas in Capisic Brook watershed, such as Warren Avenue, Brighton Avenue, Bishop Street, Forest Avenue, and Riverside Street were swept more frequently (with a vacuum sweeper). Street sweepings were taken to Riverside Recycling Center to be evaluated for beneficial reuse.*

Reporting: Annual reports to DEP each year of the permit will include a status report on street and parking lot sweeping.

#### **4. Cleaning of stormwater structures including catch basins.**

The permittee shall develop and implement a program to evaluate and, if necessary, clean catch basins and other stormwater structures that accumulate sediment at least once every other year and dispose of the removed sediments in accordance with current state law. The permittee shall clean catch basins more frequently if inspections indicate excessive accumulation of sediment. Excessive accumulation is greater than or equal to 50 percent filled.

- i. Each permit year the City will continue a program to evaluate and, if necessary, clean catch basins and other stormwater structures within MS4 that accumulate sediment at least once every other year and dispose of the removed sediments in accordance with current state law. The City will clean catch basins more frequently if inspections indicate excessive accumulation of sediment. Excessive accumulation is greater than or equal to 50 percent filled.

*Actions Completed Permit Year 1: The City continued its catch basin cleaning program with 3,658 catch basins cleaned city-wide. It is estimated that 1,033 cubic yards of material was removed during catch basin cleaning. A basic characterization of materials removed includes leaves, sediment, sand, cigarette butts, hypodermic needles, pet waste bags, and lawn clippings.*

*Actions Completed Permit Year 2: The City continued its catch basin cleaning program with 968 catch basins cleaned city-wide, with 658 of these catch basins located in Capisic Brook watershed. Catch basin cleaning was less than the previous year because one of the catch basin cleaning trucks*

was down for part of the year, but the focus remained on Capisic Brook watershed. It is estimated that 292 tons of materials were removed during catch basin cleaning; 124 tons of which was from Capisic Brook watershed. A basic characterization of materials removed includes leaves, sediment, sand, cigarette butts, hypodermic needles, pet waste bags, and lawn clippings. Catch basin residuals are taken to Riverside Recycling Center where they are evaluated for beneficial reuse or proper disposal.

***Actions Completed Permit Year 3: The City continued its catch basin cleaning program resulting in 7,586 catch basins being cleaned citywide, with 977 of these catch basins located in Capisic Brook watershed. Portland used a combination of DPW staff and contractors to complete this work. Approximately 1,552 tons of material (i.e.: leaves, sediment, sand cigarette butts, trash, hypodermic needles and pet waste bags) were removed citywide. Given the use of both in-house and contracted workers, it was not practical to distinguish between removal volumes collected within the Capisic Brook watershed and those from the rest of the City. Catch basin residuals were taken to Riverside Recycling Center to be evaluated for beneficial reuse or proper disposal.***

Reporting: Annual reports to DEP each year of the permit will include a status report on cleaning of catch basins and other stormwater structures.

## **5. Maintenance and upgrading of stormwater conveyances and outfalls.**

The permittee shall evaluate and implement a prioritized schedule, as necessary, for repairing or upgrading the conveyances, structures and outfalls of the regulated small MS4.

- i. Permit Years 1-5, the City will continue to develop and manage its storm sewer system through a Capital Improvement Planning process.  
*Actions Completed Permit Year 1: The City continued to develop and manage its sewer systems through a Capital Improvement Planning process. The majority of the current storm sewer-related work is installation of the new storm drain during sewer separation projects. Maintenance specific to the storm drain system included 12 catch basin repairs. In addition, the City has been using a combination of staff and contracted services to maintain its green infrastructure. The City is using the stormwater/drainage CMOM development efforts to improve both its grey and green infrastructure tracking and maintenance capabilities, and will be developing a capital improvement plan specific to the storm drain system.*

*As alluded to earlier, the City completed several sewer separation projects within the Capisic brook watershed, which resulted in the installation of new storm drain infrastructure and a variety of structural BMPs designed to*

treat stormwater. The Broadway-Lexington project included 5,000 linear feet of new storm drain, 38 catch basins, 29 drain manholes, a Hydro International Vorsentry (Model HS72), and a Suntree Systems Nutrient Separating Baffle Box (Model NSBB-5-1-114). The Belfort-Commonwealth project included 5,848 linear feet of new storm drain, 39 catch basins, 33 drain manholes, and three Hydro International Vorsentry units (Model HS48 and Model HS72). These two projects resulted in the separation of 54.6 acres of the Capisic Brook watershed. It was noted that initial observations of the Suntree Systems Nutrient Separating Baffle Box indicate that it will be very effective at removing sediment, organic debris, and trash (including pet waste bags).

*Actions Completed Permit Year 2:* The City continued to develop and manage its sewer systems through a capital improvement planning process. The majority of the current storm sewer-related work is installation of the new storm drain during sewer separation projects. Maintenance specific to the storm drain system included repair of 23 catch basins. The following basic maintenance of City-owned green infrastructure was conducted by the City:

- *Back Cove rain garden (x2)*
- *Rain gardens on Hersey Street, Codman Street, Chenery Street, and George Street*
- *Filtterra units on Mackworth Street and Austin Street*
- *Gravel wetland at Lyman Moore Middle School (fall mowing)*
- *Ocean Avenue School rain gardens, green roof, porous pavers, and porous asphalt*
- *Bioretention cells at Victor Road and Vera Street*

The City continues to work toward developing a capital improvement plan specific to the storm drain system. Work on the stormwater/drainage CMOM plan continued during Permit Year 2, and will be completed in Permit Year 3. In addition, as mentioned previously, the City switched its GIS database to the Esri LGIM and has been converting a large amount of CCTV data to the NASSCO standard. Both steps will facilitate the process of evaluating the City's storm drain system and developing a more effective capital improvement plan during Permit Year 3.

***Actions Taken Permit Year 3: The following inspections and maintenance work was completed during the permit year:***

- ***City inspected nearly 3,800 catch basins using a combination of in-house staff and contractors***
- ***Storm drains were repaired or replaced on Fall Brook and Osgood streets***
- ***Culverts were replaced on Caribou and Westland streets***
- ***Culverts were cleaned on Outer Ocean Avenue and Washington Avenue Ext.***
- ***The Palmer Avenue detention pond was maintained***

- *A storm drain inlet was raised & replaced on Sherwood Street*
- *A storm drain outfall at Riverton Trolley Park was repaired*
- *The drainage system at the District Road facility was cleaned & the snow repository drainage system was maintained & repaired (i.e.: A stabilized construction entrance was installed at the transition between the paved parking area and the gravel stockyard; The drainage swale was repaired or improved in several places)*
- *Green Infrastructure (GI): The City hired a contractor to provide routine spring and fall maintenance of its GI. During the permit year a total of 22 tree box filters, 15 bioretention cells, 23 soil filters, 3 gravel wetland systems and 4 porous pavement systems were inspected and maintained. The first round of inspections and maintenance was completed during the latter half of the permit year, so any repair needs identified during the inspections would be completed in Permit Year 4.*

Reporting: Annual reports to DEP each year of the permit will include a status report on the City's Storm Sewer CIP effort for the previous year (as applicable).

## **6. Stormwater Pollution Prevention Plans (SWPPPs)**

Permittees subject to the 2008 MS4 General Permit shall continue to implement and update their SWPPP(s) to ensure it meets Maine's April 26, 2011 MSGP requirements including visual monitoring.

- i. Permit Year 1-5, the City will continue to implement and revise SWPPPs for each applicable facility (as needed).

*Actions Completed Permit Year 1: The SWPPP is being implemented at the Riverside Recycling facility. Additional coordination and training is needed to fully implement the Fleet Services SWPPP. Both SWPPPs were prepared in accordance with the Maine DEP July 1, 2013 MEPDES General Permit for Small MSAs.*

*Actions Completed Permit Year 2: The City continues to implement its SWPPP at the Fleet Services, and oversees implementation of the SWPPP at Riverside Recycling facility by CPRC, the contractor managing the facility.*

*Actions Completed Permit Year 3: The City continued to implement its SWPPP at the Fleet Services, and oversee implementation of the SWPPP at Riverside Recycling facility by CPRC, the contractor managing the facility. See VI.B.2.ii. for additional information about the Fleet Services SWPPP training session. CPRC held its Riverside Recycling Center SWPPP training on March 21-22, 2016 and 11 staff participated.*

**APPENDIX A-1**  
**Permit Year 1 Summary of**  
**Minimum Control Measures 1 & 2**



## APPENDIX A-1: Permit Year 1 Summary of Minimum Control Measures 1 & 2

### MCM1: Public Education and Outreach on Stormwater Impacts

#### (I.B.1) Stormwater Public Awareness Plan

Task	Status	Details <sup>1</sup>				
Develop or revise plan to raise awareness	complete	The Cumberland County Soil & Water Conservation District (CCSWCD) worked with representatives from each of the four MS4 clusters and Maine DEP to revise the Statewide Awareness Plan developed under the 2008 permit. The Plan was submitted to Maine DEP on December 16, 2013. The revised Plan was submitted on January 10, 2014, and notice of plan approval was received on January 15, 2014.				
Summarize plan implementation to date	complete					
Conduct awareness media campaign utilizing television and online advertising	complete	CCSWCD coordinated a television and online media campaign through Time Warner Cable on behalf of ISWG. The original ducky and devil ducky ads ran two weeks per month from March through June 2014. The ads were shown on cable television stations most likely to reach the target audience (e.g. HGTV, The Weather Channel, ESPN, Fox News, DIY).				
		The following television campaign data were provided by Time Warner Cable:				
		Television Airplay (# of times played)				
		Ducky I	Ducky II	Total	Est. Reach <sup>2</sup>	Est. Frequency <sup>3</sup>
		824	1240	2064	35.9%	3.8
		CCSWCD developed online ads with a clean water message that directed to <a href="http://www.ThinkBlueMaine.org">www.ThinkBlueMaine.org</a> . Time Warner Cable placed the ads on websites most likely to reach the target audience (e.g. local and national news websites, outdoor-themed sites). The online ad campaign ran continuously from March through June 2014.				
The following online campaign data were provided by Time Warner Cable:						
Impressions	701,137					
Click thru rate	0.04% (on par with national average)					
Based on analytical software installed on the Think Blue Maine website, hits during the online media campaign increased 72% over the previous four month period. Between March and June 2014, there were 1,365 visits to <a href="http://www.ThinkBlueMaine.org">www.ThinkBlueMaine.org</a> . Between November 2013 and February 2014, there were 794 visits.						
Promote and participate in local public event	complete	<i>Promotion</i> ISWG promoted its public event, the Urban Runoff 5K and Green Neighbor Family Fest, via social media, paid online ads, and direct email communication to participants. In addition, more than 300 posters were distributed throughout the 14 ISWG communities; two press releases were submitted to local publications; radio ads and an on-air interview aired on 98.9 WCLZ during the month of April; and News Channel 8 WMTW attended and ran a story after the events.				

<sup>1</sup> CCSWCD has a notebook that includes copies of all submissions, DEP responses, final plans, promotional materials (posters, print ads, online ads, email communications, press releases, and postcards), and data regarding website hits, timing of online ads, and results of the media campaign.

<sup>2</sup> Reach is the percentage of the viewing audience that saw the ads.

<sup>3</sup> Frequency is the number of times the target audience saw the ads.



		<p><i>Participation</i>          Representatives from the ISWG municipalities volunteered at the events. Many representatives provided logistical support for the race. In addition, the City of Portland, CCSWCD, and other organizations provided educational activities focused on keeping water clean. Please see the MCM2 summary for more details about the events.</p>
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**(I.B.3) Targeted Best Management Practices Adoption Plan**

Task	Status	Details
Develop or revise BMP Adoption Plan	complete	CCSWCD revised ISWG's Targeted Best Management Practices Adoption Plan developed under the 2008 permit. The Plan was submitted to Maine DEP on October 31, 2013. The revised Plan was submitted on December 20, 2013 and notice of plan approval was received on January 15, 2014.
Summarize plan implementation to date	complete	

*Point of Sale*

Retain 21 Point of Sale locations in the ISWG communities.	complete	Two additional Point of Sale locations joined the program in 2014 (Broadway Gardens in Westbrook and Home Depot in Windham), one store decided to not participate in the program (Radley's Hometown Hardware in Old Orchard Beach) bringing the total number of stores participating in the program to 22. The distribution of the stores is as follows:
		Biddeford: 0
		Cape Elizabeth: 0
		Cumberland: 1
		Falmouth: 2
		Freeport: 1
		Gorham: 2
		Old Orchard Beach: 0
		Portland: 2
		Saco: 1
		Scarborough: 2
		South Portland: 3
		Westbrook: 2
		Windham: 3
Yarmouth: 3		
Establish Point of Sale program in Home Depot stores	ongoing	ISWG began piloting the Point of Sale program in the Windham Home Depot store in the spring of 2014. Program components are being tracked and evaluated to determine an effective program for Home Depot stores. It is anticipated that all Home Depot stores in the ISWG communities will be included in the Point of Sale program in 2015.



*Adult Education*

Offer a minimum of seven adult education classes per year	complete	Cumberland: 9/21/2013, 5 participants
		Scarborough: 9/25/2013, 7 participants
		Gorham: 9/29/2013, 11 participants
		Falmouth: 3/26/2014, 8 participants (Youth YardScaping teacher training)
		Scarborough: 4/9/2014, 14 participants
		Falmouth: 6/2/2014, 32 participants (Falmouth Middle School Youth YardScaping <sup>4</sup> presentation)
		Falmouth: 6/3/2014, 28 participants (Falmouth Middle School Youth YardScaping presentation)
		Falmouth: 6/4/2014, 38 participants (Falmouth Middle School Youth YardScaping presentation)
		Falmouth: 6/5/2014, 35 participants (Falmouth Middle School Youth YardScaping presentation)
Promote adult education classes	complete	Press releases publicizing the available classes were submitted to local publications, additional information was published in local adult education brochures, via direct mail, using social media, and through host locations.
Track behavior change	complete	CCSWCD staff documented class evaluations and contacted past adult education class participants to determine which YardScaping practices were implemented. Please see summary of behavior change reported by participants of PY5 classes, as well as those practices participants of PY1 classes intend to implement below.

*Adult Education Behavior Change Tracking*

During the fall of 2013, CCSWCD staff made follow up phone calls with participants of YardScaping adult education classes held in the fall of 2012 and spring of 2013 (PY5 who provided their contact information on class evaluations in order to determine the level of follow through of the YardScaping practices class participants intended to use). As expected, it was difficult to reach people, but the information gleaned from those who were reached provided an anticipated rate of compliance for the YardScaping practices that class participants intended to implement.

Projected Behavior Change from 2008 PY5 classes			
Lawn Care Practice	Plan to implement	Implemented Practice	Projected behavior change based on follow up
Set Mower to a height of 3"	17	17	100.00%
Leave grass clippings	9	9	100.00%
Sharpen mower blades	17	4	23.53%
Aerate	37	20	54.05%
Topdress	37	19	51.35%
Overseed	38	25	65.79%
Use low maintenance seed	39	25	64.10%
Get a soil test	38	5	13.16%
Use nitrogen-only fertilizer	34	9	26.47%
Use compost tea	26	9	34.62%

Follow up phone calls are made six months to one year after the class to allow participants a growing season to

<sup>4</sup> Please see description of Youth YardScaping program on page 7 of Appendix A.



implement the recommended practices. Below are the results of the Permit Year 1 post-class evaluations completed by the YardScaping class participants.

2013 PY1 Post-Class Evaluations			
Lawn Care Practice	Plan to implement	Currently do not implement	% planning to implement
Set Mower to a height of 3"	4	4	100.00%
Leave grass clippings	5	5	100.00%
Sharpen mower blades	10	10	100.00%
Aerate	22	23	95.65%
Topdress	21	22	95.45%
Overseed	16	16	100.00%
Use low maintenance seed	15	16	93.75%
Get a soil test	19	20	95.00%
Use nitrogen-only fertilizer	16	20	80.00%
Use compost tea	20	22	90.91%

CCSWCD staff will contact the class participants from the Permit Year 1 classes in the fall of 2014 to determine which behaviors have been adopted.

*Targeted Information Distribution*

One neighborhood per ISWG community distributed targeted lawn care outreach materials	complete	YardScaping information was distributed throughout priority neighborhoods in each ISWG community. The following number of households received information:
		Biddeford: 122
		Cape Elizabeth: 79
		Cumberland: 112
		Falmouth: 95
		Freeport: 40
		Gorham: 68
		Old Orchard Beach: 77
		Portland: 203
		Saco: 107
		Scarborough: 110
		South Portland: 86
		Westbrook: 205
		Windham: 92
Yarmouth: 61		



*Websites & Free Media*

Maintain and monitor CCSWCD YardScaping website	complete	YardScaping classes, socials and point of sale stores were updated on CCSWCD's YardScaping website and social media was used to provide healthy lawn care information to followers and the public. Increased hits were seen after targeted neighborhood outreach efforts, public events, and adult education presentations.
Newspaper coverage of YardScaping activities and healthy lawn care	complete	<i>Portland Press Herald</i> : Create a thriving backyard community (May 31, 2014)
		<i>Portland Press Herald</i> : Maine Voices: Clean water can't be taken for granted (April 13, 2014)
		<i>Portland Press Herald</i> : Conventional and organic approaches (April 6, 2014)
		<i>Portland Press Herald</i> : Maine Gardener: Feeling fallish? Your lawn is, too (October 6, 2013)

*Additional Activities not Identified in the Plan*

Neighborhood Socials	One neighborhood social was held in Portland on 9/20/2013. 10 people participated.
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**(I.B.2) Municipal Permit Awareness Plan**

Task	Status	Details
Develop municipal permit awareness plan	complete	CCSWCD developed ISWG's Municipal Permit Awareness Plan and submitted it to Maine DEP on February 7, 2014. The revised Plan was submitted on March 28, 2014 and notice of plan approval was received on April 24, 2014.
Summarize plan implementation to date	complete	

*Materials Development*

Develop permit awareness materials	ongoing	CCSWCD developed draft municipal fact sheets that are tailored to the appropriate municipal audience. CCSCWD has also created a draft template PowerPoint presentation following the topics and audiences of the fact sheets. Talking points for newly elected municipal officials will be finalized upon completion of the municipal fact sheets.
Develop survey to gauge municipal awareness	ongoing	CCSWCD is in the process of developing a survey for ISWG representatives to determine their municipal councils' awareness of their stormwater program. The survey will be finalized and administered to ISWG representatives in PY2.

*Annual Pollution Prevention Training*

Provide pollution prevention training for municipal staff	complete	CCSWCD provided a good housekeeping/pollution prevention training for municipal staff on June 19, 2014. The training covered general SWPPP implementation and was made available to staff of public works, parks & rec, facilities, and other relevant departments.
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*Cooperative Outreach*

Reach out to partner organizations	complete	CCSWCD worked with the Maine Chapter of the American Public Works Association (APWA) to coordinate participation in their Highway Congress.
Provide display at APWA's Highway Congress	complete	CCSWCD provided an educational display about proper vehicle washing at APWA's annual Highway Congress, held on June 6, 2014.

**(I.B.4) MS4 Enhanced Outreach Plan**

Task	Status	Details
Develop MS4 enhanced outreach plan	complete	ISWG worked with the York County MS4s to develop a regional MS4 Enhanced Outreach Plan. The draft plan was submitted to Maine DEP on June 25, 2014.
Summarize plan implementation to date	complete	



## Summary of the Youth YardScaping Program

This year marked the fifth year of Falmouth Middle School's participation in the Youth YardScaping program. This year the program was expanded to include all sixth grade science classes (4 teachers and 8 classes). The program has proven effective at increasing science topic understanding in students, awareness of local stormwater issues, and changing lawn care behaviors.

Through the Youth YardScaping program, clean water lessons with a local focus are interwoven throughout the year-long sixth grade science curriculum. Lessons begin with the basics: the water cycle, water movement, and watershed characteristics. Students then receive reinforcement of these concepts and begin learning about runoff and nonpoint source pollution and its impact on water resources. All classes also participate in long-term experiments to test the effects of different lawn care products on an aquatic ecosystem and use the experiment as part of their research.

In the early spring, the program intensifies to focus on one of the largest threats to local water quality: conventional lawn care methods that use large amounts of pesticides and fertilizer. Students from each teacher's two science classes form a lawn care company and split into groups that are each assigned a lawn care practice to research. As experts on their practice, the students' goal is to fully understand their practice so they are able to make recommendations about the best methods to have a healthy lawn and protect water resources. The practices assigned to students include mowing, aerating, topdressing, overseeding, watering, soil testing, fertilizing, brewing and applying compost tea, and controlling weeds and bugs. Other groups are dedicated to background topics like the soil food web, watersheds, and nonpoint source pollution.

Each group is responsible for researching their practice/topic and answering guiding questions that help direct their research. After researching they implement and experiment with their practice on the school grounds. This step allows students to understand their practice and determine their recommendations from a hands on experience. After implementing their practice, students prepare a public presentation about their topic and make their recommendations. This preparation includes developing visuals and a demonstration.

At the end of the program students present their research and demonstrate their practices at a public presentation. This year, approximately 30 to 50 parents and community members attended each class' presentation. These presentations foster intergenerational learning and provide anecdotal evidence of this transfer of information. After the program most teachers wrap up by asking the audience if they have learned about a new practice they will now incorporate into their own lawn care. A majority of audience members commented that they will try to implement at least one of the recommended practices. One parent of a student from Mrs. Tammen's 2014 class said that their son would not allow them to use the chemicals they had used in the past on their lawn because of what he had learned during this program.

All four teachers who participated in the program are excited to include this program into their curriculum again for the 2014/2015 school year. They are also feeling more confident about taking on a larger role in the implementation portion of this project.



## MCM2: Public Involvement and Participation

### Urban Runoff & Green Neighbor Family Fest

The third annual *Urban Runoff* 5K race and walk and the *Green Neighbor Family Fest* were held on April 26, 2014. The goal of these events was to raise awareness of polluted runoff and support ISWG's school education program. With approval from Maine DEP, the race and festival served as the Public Involvement and Participation event for all ISWG communities.

By all accounts, the event was a huge success. Approximately 600 runners and walkers registered for the race, and many local businesses supported the race through sponsorships, in-kind donations, and employee participation as race participants and volunteers. Local media outlets advertised the events, including the donation of radio advertisement and an on-air interview during the month of April by 98.9 WCLZ and news coverage by News Chanel 8 WMTW. Social media, paid online advertising, posters, and direct mail and email were also used to promote the race and cause. Stormwater awareness messages were included on the event website, social media, eblasts, and other marketing tools that were sent to all registered participants, sponsors, and partners.

Anecdotes as well as a post-race survey completed by race participants demonstrate the success of the race's planning and implementation. Many participants particularly enjoyed the course, which changed this year to end in front of Deering High School. Many survey respondents indicated the cause of the race, clean water education, was a major reason why they chose to participate.

The *Green Neighbor Family Fest* was held after the race in Deering High School gymnasium due to weather. The event ran for three hours and was attended by approximately 700 people. Scheduled events included the awards ceremony and a live music. A total of 21 exhibits were set up by local nonprofit and governmental organizations, universities, and businesses to provide hands-on, educational activities for children. These activities included a marine touch tank, making "seed bombs" (seeds rolled in compost), water quality experiments, "poo bag" toss (about proper disposal of pet waste), and many more. Children also took part in face painting and water related prize giveaways.

The festival was also a great success. Children were engaged, and parents provided feedback that the activities were not only fun, but also educational for both parents and children.

Plans are underway to host the fourth annual *Urban Runoff* 5K and *Green Neighbor Family Fest* on Saturday, April 25, 2015.

## Greener Neighborhoods Cleaner Streams

2013-2014 Summary Report  
Prepared for the City of Portland  
July 2014

The Cumberland County Soil & Water Conservation District (CCSWCD) continued to coordinate and implement the Greener Neighborhoods Cleaner Streams (GNCS) program on behalf of the City of Portland in Fiscal Year 2014 (July 1, 2013 – June 30, 2014). The goal of the program is to educate Capisic Brook watershed residents about their role in cleaning up the Brook. The program's current focus is changing residents' lawn care behavior. This report summarizes the work completed during this time period.

### Green Neighbor Family Festival

CCSWCD coordinated the third annual Green Neighbor Family Festival, which took place on April 26, 2014. The one day event was held at Deering High School following the Urban Runoff 5k. It served as a platform to raise awareness of GNCS, as well as educate the public about their role in clean water and a healthy environment.

At the Festival, GNCS provided an interactive display that focused on healthy lawn care. Additional activities were also provided by the following organizations:

- Casco Bay Estuary Partnership
- City of Portland
- Coast Encounters
- Flow Fold
- Friends of Casco Bay
- Garbage to Gardens
- IDEXX
- Lamey Wellehan
- Maine Energy Education Program
- Maine Wastewater Control Association
- Natural Resources Council of Maine
- Party Palooga
- Project Learning Tree
- Roots & Shoots
- Sappi Paper
- Sunrise Guide
- Spiral Tree Yoga & Wellness Studio
- Surf Camp Maine
- TREE Center
- Wells Reserve

Marketing efforts for the Green Neighbor Family Festival included a postcard mailing about the event to all watershed residents, email notifications, a press release to Portland area newspapers, posters distributed throughout local municipalities, and information posted on social media. Other media advertising included radio ads and an interview on 98.9 WCLZ and a story on WMTW Channel 8 after the event.

Approximately 700 participants attended the event on a rolling basis. A survey was sent to participating organizations and the following feedback was received:

- Marketing of the event (Question: on a scale of 1 to 4, where 1 is poor and 4 is excellent, how would you rate the marketing of this event?) - 60% of those surveyed rated the marketing done prior to the event at a 4.
- Quality of activities (Question: on a scale of 1 to 4, where 1 is poor and 4 is excellent, how would you rate quality of activities at the event?) 60% of those surveyed rated the activities at the event at a 4.

## Mailings

Three mailings were sent to all households in the Capisic Brook watershed. The first focused on the Green Neighbor Family Fest, the second about the lawn care helpline, and the third about the rebate program. The mailings resulted in one request for technical assistance and three requests for trash bag rebates.

One mailing about the two YardScaping socials was sent to households in the targeted neighborhoods, Rosemont and Nason's Corner.

## Targeted Outreach (in 2 neighborhoods)

CCSWCD conducted targeted outreach in Rosemont and Nason's Corner based on research about lawn care practices used, done in 2013.

Outreach programs in these targeted neighborhoods included two YardScaping healthy lawn care educational events. The first was held at Rosemont Market on June 21st. Rosemont Market is a central location and very popular with residents in the Rosemont neighborhood and surrounding community. There were many families who participated in this event, and while parents discussed YardScaping, children made muddy buddies (grass planting activity). Through the request of one resident a letter template was developed for residents who wish to do their own outreach to their neighbors to encourage the use of YardScaping practices.

The second YardScaping educational event was held at Capisic Pond Park on June 28th. This was a great location to connect participants with the goal of the program since runoff flows to Capisic Pond. A majority of participants were residents walking their dogs and using the trails. Six participants took the Green Neighbor Pledge at this event and brought Green Neighbor signs back to their yard to be displayed.

Both neighborhoods were canvassed about Greener Neighborhood Cleaner Streams and healthy lawn care. The first canvassing event on May 22nd was carried out with the help of Cheverus High School students. Door hangers about healthy lawn care were hung at each residence within these neighborhoods. The second event took place on June 24th. During this event, brochures about the GNCS program were handed directly to individuals who were outside their homes. This direct distribution of information led to one-on-one conversations about how lawns were being maintained and often resulted in technical assistance being provided.

CCSWCD coordinated with Lincoln Middle School to carry out a storm drain stenciling event in the Rosemont and Nason's Corner neighborhoods, scheduled for May 23rd. Unfortunately, the event was postponed due to inclement weather and was unable to be rescheduled.

## General Outreach

CCSWCD maintained the GNCS website and social media accounts. Press releases about the program were sent to local newspapers. Topics included the Green Neighbor Family Fest, GNCS program offerings, storm drain stenciling and canvassing events, and community socials.

CCSWCD hired an artist to develop an artistic Capisic Brook watershed map. This map was used in the *Green Neighbor Guide*, which provides a brief overview of the program and simple steps residents can take to keep Capisic Brook and Casco Bay clean. The Guide will be distributed to residents at events and will be available at local establishments.



CCSWCD designed an educational sign that includes the artistic map that was developed for the *Green Neighbor Guide*, as well as steps residents can take to reduce pollution from their properties. The sign is located at Hall School, as identified in the *Capisic Brook Watershed Management Plan*.

An in-class lesson about the water cycle was provided to 45 students at Longfellow Elementary School on May 30th. The lesson emphasized how pollution is carried to local water bodies through stormwater runoff. At the request of the teacher, additional emphasis was given to the impact of lawn care activities on water, since the students are involved in a service learning project to maintain a portion of the school's lawn using healthy lawn care practices.

# CAPISIC BROOK GREEN NEIGHBOR Guide

*Annual*  
  
**URBAN RUNOFF**  
 and  
**Green Neighbor Family Fest**

- PORTLAND TRAILS**
1. EVERGREEN CEMETERY
  2. CAPISIC BROOK
  3. RIVERTON RAIL
  4. BAXTER WOODS

- SCHOOLS**
1. DEERING HIGH SCHOOL
  2. LINCOLN MIDDLE SCHOOL
  3. LONGFELLOW ELEM SCHOOL
  4. HALL SCHOOL
  5. BREAKWATER SCHOOL
  6. RIVERTON SCHOOL
  7. CATHERINE McAULEY H.S.
  8. UNIV. OF NEW ENGLAND

**WATER IN THE BLUE AREA FLOWS TO THE CAPISIC BROOK**

**THIS MAP IS NOT TO SCALE**



**TO CASCO BAY**





**APPENDIX A-2**  
**Permit Year 2 Summary of**  
**Minimum Control Measures 1 & 2**



## APPENDIX A-2: Permit Year 2 (PY2) Summary of Minimum Control Measures 1 & 2

The following is a summary of work facilitated by the Cumberland County Soil & Water Conservation District (CCSWCD) on behalf of the Interlocal Stormwater Working Group (ISWG), and in some instances for all statewide municipalities.

### MCM1: Public Education and Outreach on Stormwater Impacts

#### Stormwater Public Awareness Plan

Task	Status	Details <sup>1</sup>						
Summarize plan implementation to date	complete	As a result of our efforts, at the end of this permit cycle, 50% of homeowners, aged 35-55, in the 30 regulated small MS4 municipalities will understand that water does run off their property, not all is absorbed, and it will carry with it pollutants, such as lawn chemicals, pet waste, and oil drops. This polluted water will enter the storm drain system and discharge, untreated, directly to water bodies used for drinking, fishing, and swimming.						
Conduct awareness media campaign utilizing television and online advertising	complete	CCSWCD coordinated a statewide television and online media campaign through Time Warner Cable. The original ducky and devil ducky ads ran two weeks per month from August through October 2014 in PY2. The ads were shown on cable television stations most likely to reach the target audience (e.g. HGTV, The Weather Channel, ESPN, Fox News, DIY).						
		The following television campaign data were provided by Time Warner Cable:						
		<table border="1"> <thead> <tr> <th>Television Airplay</th> <th>Est. Reach<sup>2</sup></th> <th>Est. Frequency<sup>3</sup></th> </tr> </thead> <tbody> <tr> <td>762</td> <td>23.65%</td> <td>2.4</td> </tr> </tbody> </table>	Television Airplay	Est. Reach <sup>2</sup>	Est. Frequency <sup>3</sup>	762	23.65%	2.4
		Television Airplay	Est. Reach <sup>2</sup>	Est. Frequency <sup>3</sup>				
		762	23.65%	2.4				
		CCSWCD developed online ads with a clean water message that directed viewers to <a href="http://www.ThinkBlueMaine.org">www.ThinkBlueMaine.org</a> . Time Warner Cable placed the ads on websites most likely to reach the target audience (e.g. local and national news websites, outdoor-themed sites). The online ad campaign ran continuously from August through October 2014.						
The following online campaign data were provided by Time Warner Cable:								
<table border="1"> <tbody> <tr> <td>Impressions</td> <td>383,872</td> </tr> <tr> <td>Click thru rate<sup>4</sup></td> <td>0.05% (national average is 0.04%)</td> </tr> </tbody> </table>	Impressions	383,872	Click thru rate <sup>4</sup>	0.05% (national average is 0.04%)				
Impressions	383,872							
Click thru rate <sup>4</sup>	0.05% (national average is 0.04%)							
Promote and participate in local public event	complete	<p><i>Promotion</i></p> <p>With the help of all ISWG representatives, CCSWCD promoted ISWG's public event, the Urban Runoff 5K and Green Neighbor Family Fest, via social media, paid online ads, and direct email communication to participants. In addition, 340 posters were distributed throughout the 14 ISWG communities by ISWG representatives; radio ads aired on 98.9 WCLZ during the months of March and April; and WMTW News Channel 8 attended the event and covered the events leading up to April 25, 2015.</p>						

<sup>1</sup> CCSWCD maintains a documentation notebook for all MCM 1&2 activities.

<sup>2</sup> Reach is the percentage of the viewing audience that saw the ads.

<sup>3</sup> Frequency is the number of times the target audience saw the ads.

<sup>4</sup> Click-through rate is the number of users that click on a specific link out of the total users that view a page, email, or advertisement.



		<p><i>Participation</i>          Representatives from the ISWG municipalities volunteered or participated at the events, on April 25, 2015. Many representatives provided logistical support for the race (e.g. flagging, parking set up, etc.). In addition, the City of Portland and other organizations provided educational activities focused on keeping water clean. Please see the MCM2 summary for more details about the events.</p>
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**Targeted Best Management Practices Adoption Plan**

Task	Status	Details
Summarize plan implementation to date	complete	As a result of our efforts, at the end of this permit cycle, 15% of college-educated homeowners, aged 35-55, residing in the urbanized area and/or the priority watershed within the ISWG communities and who currently apply fertilizers and pesticides to their lawns will reduce their use of lawn chemicals.

**Point of Sale**

Retain 21 Point of Sale locations in the ISWG communities	complete	Three additional Point of Sale locations joined ISWG’s YardScaping program in 2015 (Home Depot in Portland, South Portland and Biddeford), one store closed (Estabrook’s in Scarborough) bringing the total number of stores participating in the program to 23. The distribution of the stores is as follows:
		Biddeford: 1
		Cape Elizabeth: 0
		Cumberland: 1
		Falmouth: 2
		Freeport: 1
		Gorham: 2
		Old Orchard Beach: 0
		Portland: 3
		Saco: 1
		Scarborough: 1
		South Portland: 4
		Westbrook: 2
		Windham: 3
Yarmouth: 3		
Establish Point of Sale program in Home Depot stores	complete	In the spring of 2015, ISWG implemented the Point of Sale program in the four Home Depot stores located in ISWG municipalities (Biddeford, Portland, South Portland, and Windham). Program components include a staff training, distribution of educational materials to the general public, and an educational event for customers at each store.

**Adult Education**

Offer a minimum of seven adult education events per year on YardScaping practices	complete	Gorham: 7/12/2014, Table at Farmer’s Market, 22 interactions
		Portland: 7/23/2014, Table at Farmer’s Market, 13 interactions
		Scarborough: 8/1/2014, YardScaping Social at Broadturn Farm, 12 interactions
		Windham: 8/23/2014, Home Depot Educational Table Event, 18 interactions
		Portland: 9/13/14, Portland Greenfest, 52 interactions
		Gorham: 9/27/2014, 7 participants
		Scarborough: 3/26/2015, 12 participants



		Falmouth: 4/10/2015, 6 participants (Falmouth Middle School Teacher Training) South Portland: 4/13/2015, 10 participants (Home Depot Staff Training) Biddeford: 4/14/2015, 3 participants (Home Depot Staff Training) Portland: 4/20/2015, 8 participants (Home Depot Staff Training) Windham: 5/1/2015, 3 participants (Home Depot Staff Training) Windham: 5/10/2015, Home Depot Educational Event, 16 interactions Portland: 5/16/2015, Home Depot Educational Event, 20 interactions Biddeford: 5/16/2015, Home Depot Educational Event, 19 interactions South Portland: 5/17/2015, Home Depot Educational Event 18 interactions Falmouth: 6/9/2015, 32 participants (Falmouth Middle School Youth YardScaping presentation) Falmouth: 6/9/2015, 35 participants (Falmouth Middle School Youth YardScaping presentation)
Promote adult education classes	complete	Information on YardScaping practices was published in local adult education brochures, via direct mail, using social media, and through host locations.
Track behavior change	complete	CCSWCD staff documented class evaluations and contacted past adult education class participants to determine which YardScaping practices were implemented. Please see summary of behavior change reported by participants of PY1 classes, as well as those practices participants of PY2 classes intend to implement below.

*Adult Education Behavior Change Tracking*

During the spring of 2015, phone calls were made to participants of YardScaping adult education classes held in the fall of 2013 and spring of 2014 in order to determine class participants' level of implementation of the YardScaping practices. Follow up phone calls are made six months to one year after the class to allow participants a growing season to implement the recommended practices. As expected, it was difficult to reach people, but the information gleaned from those who were reached provided an anticipated rate of compliance for the YardScaping practices that class participants intended to implement.

Permit Year 1 Post-Class Evaluations			
Lawn Care Practice	Plan to implement	Implemented Practice	% behavior change
Set Mower to a height of 3"	4	3	75.0%
Leave grass clippings	5	4	80.0%
Sharpen mower blades	10	6	60.0%
Aerate	22	13	59.1%
Topdress	21	12	57.1%
Overseed	16	10	62.5%
Use low maintenance seed	15	10	66.7%
Get a soil test	19	8	42.1%
Use nitrogen-only fertilizer	16	3	60.0%
Use compost tea	20	5	25.0%



Below are the results of the Permit Year 2 post-class evaluations completed by the YardScaping class participants.

Permit Year 2 Post-Class Evaluations			
Lawn Care Practice	Plan to implement	Currently do not implement	% planning to implement
Set Mower to a height of 3"	4	4	100.00%
Leave grass clippings	4	4	100.00%
Sharpen mower blades	3	3	100.00%
Aerate	7	7	100.00%
Topdress	7	7	100.00%
Overseed	7	7	100.00%
Use low maintenance seed	6	6	100.00%
Get a soil test	5	5	100.00%
Use nitrogen-only fertilizer	7	8	87.50%
Use compost tea	8	9	88.89%

CCSWCD staff will contact the class participants from the Permit Year 2 classes in the fall of 2015 and/or spring of 2016 to determine which behaviors have been adopted.

**Targeted Information Distribution**

Distribute lawn care information in one targeted neighborhood per ISWG community	complete	YardScaping information was distributed throughout priority neighborhoods in each ISWG community. The following number of households received information:
		Biddeford: 122
		Cape Elizabeth: 79
		Cumberland: 112
		Falmouth: 95
		Freeport: 40
		Gorham: 68
		Old Orchard Beach: 77
		Portland: 203
		Saco: 107
		Scarborough: 110
		South Portland: 86
		Westbrook: 205
		Windham: 92
Yarmouth: 61		

**Websites & Free Media**

Maintain and monitor CCSWCD YardScaping website	ongoing	CCSWCD is in the process of updating their website as the current format is no longer supported. YardScaping information will be updated once the website redesign is complete, which is scheduled for fall 2015.
Newspaper coverage of YardScaping activities and healthy lawn care	complete	<i>Portland Press Herald</i> : Good for you if you live by water, good for all if you don't pollute (September 7, 2014)
		<i>Portland Press Herald</i> : Chemical Lawns a Formula for Trouble (October 5, 2014)
		<i>Portland Press Herald</i> : Maine Gardener: Put lawn and garden to bed for the



	winter (November 2, 2014)
	<i>Portland Press Herald</i> : Lawn Chemicals Threaten Health of Children, Environment (December 24, 2014)
	<i>Portland Press Herald</i> : Fertilizing for a Perfect Lawn Harms Coastal Waters (January 7, 2015)
	<i>Portland Press Herald</i> : Pause to understand hazards before using pesticides (March 15, 2015)

**Municipal Permit Awareness Plan**

Task	Status	Details
Summarize plan implementation to date	complete	As a result of our efforts, at the end of this permit cycle, municipal councilors, managers, and directors of Planning, Public Works, and Parks & Recreation (or equivalent) departments in the ISWG communities will understand that they are subject to a Maine Pollutant Discharge Elimination System (MPDES) permit and will understand the requirements under that permit. They will also gain an understanding of stormwater pollution, how their municipal operations may contribute to stormwater pollution, and steps that can be taken to reduce stormwater pollution.

**Materials Development**

Develop permit awareness materials	complete	<p><b>Fact Sheets:</b> CCSWCD worked with representatives from each municipality to finalize fact sheets tailored to municipal councils and staff. Fact sheets were customized for each municipality and print and electronic copies provided. The fact sheets serve as talking points for newly elected municipal officials and are included in new member packets for each community.</p> <p><b>PowerPoint:</b> CCSCWD prepared a template PowerPoint presentation that was customized for the four municipalities receiving targeted outreach. The Presentation serves as a companion to the municipal fact sheet, since it is intended for a similar audience. The presentation also provides similar information about permit obligations and emphasizes the role of interdepartmental communication.</p> <p><b>Informational Poster:</b> In lieu of creating a fact sheet tailored to public works crews, CCSWCD created a poster that outlines important good housekeeping and pollution prevention practices, including proper vehicle washing, chemical storage, etc. The posters, entitled “Clean Water is Everyone’s Job”, were printed in PY2 and distributed to municipalities in PY3.</p>
Develop survey to gauge municipal awareness	complete	CCSWCD coordinated with each of the 14 ISWG representatives to finalize a survey determine their municipal councils’ awareness of their stormwater program. PY2 results will be compared to future years’ data.

**Targeted Outreach**

Provide targeted outreach to four to five ISWG communities.	complete	CCSWCD provided targeted outreach to municipal staff and elected officials in Biddeford, Old Orchard Beach, Saco, and Scarborough. Each municipality received an initial meeting or consultation between CCSWCD staff and the MS4 Stormwater Coordinator to plan and facilitate three trainings/meeting sessions with relevant municipal staff (representative from planning & code, public safety, engineering, etc.). The goal of the meetings was to understand the needs of the municipality, provide an overview of each departments’ role in permit
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ISWG Permit Year 2 Summary of Minimum Control Measures 1 & 2

		implementation, promote interdepartmental coordination, and prepare for a presentation to the municipal council. Finally, CCSWCD provided a presentation to each municipal council about stormwater, their MS4 program, and the requirements that must be met by the municipality.		
	Biddeford	Interdepartmental meeting: 12/10/14	Depts. represented: Public Works, Engineering, Planning, Waste Water, Environmental Compliance	
		Compliance documentation support: 03/11/15		
		O&M/SWPPP/SPCC training: 04/09/15	Depts. represented: Codes, Waste Water, Environmental Compliance, School Maintenance, School Administration, Police Department, Recycling Complex, Fire Department, Public Works, City Hall, Planning, Fire Department, Community Center, Recreation, Engineering, Streets	
		City Council presentation: 02/17/15		
		Old Orchard Beach	Initial meeting: 12/15/14	
			Interdepartmental meeting: 01/23/15	Depts. represented: Public Works, Planning, Code Enforcement, Town Manager, Fire Department, Ball Park Commission, Waste Water
			Town Council presentation: 02/03/15	
			O&M/SWPPP/SPCC training: scheduled for PY3	
		Saco	Initial meeting: 11/05/14	
			Interdepartmental meeting: 11/12/14	Depts. represented: Public Works, Parks and Rec, Engineering, Code Enforcement, Planning, Water Resources Recovery Division, Police, School
	Senior staff meeting: 02/24/15		Depts. represented: Police, City Clerk, Assessing, Fire, Police, Code Enforcement,	



			Finance Department, IT, Planning, Public Works, Engineering, Water Resources Recovery District, Parks and Rec, Economic Development
			City Council presentation: 03/02/15
		Scarborough	Interdepartmental meeting: 02/11/15
			Depts. represented: Town Manager, Public Works, GIS, Beach Inspection, Community Services, Code Enforcement, Planning, Police, Fire, Finance, IT, Human Resources
			Meeting to prepare for presentation: 03/11/15
			Presentation run through: 03/24/15
			Town Council & Planning Board presentation: 03/25/15

**General Outreach**

Provide presentation to municipal councils about municipal stormwater program	complete	Under ISWG’s Municipal Permit Awareness Plan, each municipality not receiving targeted outreach is required to provide a presentation to their municipal council about their MS4 program during each permit year. Councils in targeted municipalities received presentations by CCSWCD, as detailed above.
		Cape Elizabeth: 01/05/2015
		Cumberland: 06/15/15
		Falmouth: 05/27/15
		Freeport: 05/19/15
		Gorham: 04/14/15
		Portland: 01/21/15
		South Portland: 05/04/15
		Westbrook: 11/17/14
		Windham: 04/21/15
Yarmouth: 05/14/15		

**Cooperative Outreach**

Provide outreach through a minimum of one partner organization	complete	An educational display about common sources of water pollution, focusing on Illicit Discharge Detection and Elimination, was presented at APWA’s annual Highway Congress, held on June 4, 2015. Time out for Training, a program coordinated by Maine Local Roads, ensured that 74 people visited the booth.
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**Evaluation**

Conduct annual survey of ISWG municipalities to gauge awareness	complete	The survey was administered to ISWG representatives in PY2. See summary of survey responses in Appendix A-2.
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**Additional Activities not Identified in the Plan**

Additional materials developed	complete	CCSWCD worked with targeted municipalities to revise Operation & Maintenance (O&M) Plan templates for municipal operations relating to police, fire, and buildings and grounds activities. The plan templates were distributed electronically to ISWG communities for them to customize for their municipalities' facilities as per MCM6.
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**MS4 Enhanced Outreach Plan**

Task	Status	Details
Develop MS4 enhanced outreach plan	complete	ISWG worked with the York County MS4s to develop a regional MS4 Enhanced Outreach Plan. The plan was approved by Maine DEP on December 30, 2014.
Summarize plan implementation to date	complete	Please see summary below.

LR22 – An Act to Promote Asphalt and Latex Pavement Sealing Products was drafted by Representative Matthea Daughtry in January 2015. The Legislative revisers office adjusted the bill and issued it in draft on 3/11/2015. Rep. Daughtry met with the revisers office on 3/17 and adjusted the language. The bill, LD 1208 was drafted and issued on 4/7/2015, with a hearing scheduled for the Environment and Natural Resources Committee on 4/23/2015.

Representatives from ISWG and the York County MS4s held several conference calls (1/6/2015, 4/16/2015 and 4/27/2015) and meetings (12/11/2014) to review and adjust the language, conduct research on the issue and how other states and municipalities have addressed bans on coal tar-based sealants.

A fact sheet was drafted and reviewed by ISWG representatives and the York County MS4s. The fact sheet was reviewed by Ms. Daughtry and revised based on all comments received. The fact sheet was provided to the Environment and Natural Resources Committee members via email and as part of their informational packet for consideration. Phone calls were also made to representatives on the committee to discuss the bill and fact sheet. A small number of committee members were reached directly, and messages were left for those that were not reached. No phone calls were returned before the Committee met to consider the bill.

ISWG and the York County MS4s reached out to the Long Creek Watershed Management District, the Falmouth Conservation Commission, Environmental Health Strategy Center, MEWEA, and the US Geologic Survey (who has done much of the research on coal-tar based sealants). In addition, ISWG and York County MS4s reached out their MMA Legislative committee members to encourage them to vote to support the bill (the MMA Legislative committee is the entity that decides what bills MMA will support).

The hearing for the bill was conducted on 4/23/2015. The Falmouth Conservation Commission, Environmental Health Strategy Center, MEWEA, and MMA all testified for the bill. The Long Creek Watershed Management District testified neither for nor against the bill. The Pavement Coatings Technology Council and Maine DEP testified against the bill. A work session was held on 4/20/2015, and the US Geologic Survey attended this work session. At the end of the session, a majority of the Environment and Natural Resources Committee voted “ought not to pass.” On May 26, 2015, the House and Senate accepted the majority committee’s recommendation to not pass the bill, by a vote of 5 to 4.

Ms. Daughtry has stated she will revise and re-issue the bill in 2016. ISWG and the York County MS4s are obtaining a full copy of all testimony, and anticipate making some revisions to our proposed plan or outreach materials for enhanced public education to provide better public education to the legislators for this issue.



## Summary: ISWG Youth Education Activities

### Overall:

Total students: 3,763

Total contact hours: 11,274

### Biddeford

Total students: 198

Total contact hours: 198

Lesson topics: Watersheds, watershed models, water movement; transport of nonpoint source pollutants

Schools: Biddeford Middle School

Educator: CCSWCD

### Cape Elizabeth

Total students: 61 (CCSWCD: 48, PWD: 13)

Total contact hours: 133 (CCSWCD: 68, PWD: 65)

Lesson topics: Macroinvertebrate sampling and identification & bioassessment; water quality and nonpoint source pollution and prevention; marine debris and ocean currents, nonpoint source pollution and prevention, treatment and laboratory analysis of drinking water and wastewater

Schools: Cape Elizabeth High School, Pond Cove Elementary School

Educator: CCSWCD, PWD

### Cumberland

Total students: 404 (CCSWCD: 235, PWD: 169)

Total contact hours: 1,555 (CCSWCD: 235, PWD: 1,320)

Lesson topics: Marine debris and ocean currents; watersheds, nonpoint source pollution, and water quality parameters; in-class water quality testing; groundwater resources and pollution prevention<sup>5</sup>; global water distribution, conservation, and the water cycle; branching patterns, water systems/movement, watersheds; runoff, stormwater, nonpoint source pollutants, solutions; habitat requirements and life cycle of Maine's brook trout; impervious/pervious surfaces, nonpoint source pollutants, shorefront landscape design, vegetated buffers; water quality monitoring, macroinvertebrates, mock bioassessment; erosion, best management practices, landscape evaluation and redesign; trout releases at Collyer Brook: water quality testing, macroinvertebrate sampling, streamside assessment hike

Schools: Greely High School, Greely Middle School

Educator: CCSWCD, PWD

### Falmouth

Total students: 160

Total contact hours: 480

Lesson topics: Runoff, nonpoint source pollutants and their impact on water quality; reducing impact on waterways by changing lawn care practices (Youth YardScaping); techniques for more environmentally-friendly lawn care: mowing, aerating, topdressing, overseeding, watering, soil testing, fertilizing, compost tea application, soil food web, weed control, pest control

Schools: Falmouth Middle School

Educator: CCSWCD

### Freeport

Total students: 105

Total contact hours: 105

Lesson topics: Watersheds, define water pollution; nonpoint source pollution, stormwater, storm drains, and cumulative impact; nonpoint source pollution, impervious/pervious surfaces, runoff, and best management practices

Schools: Mast Landing School

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<sup>5</sup> Additional funding for groundwater lessons provided by Yarmouth Water District



Educator: CCSWCD

### **Gorham**

Total students: 589 (CCSWCD: 75, PWD: 514)

Total contact hours: 1,829 (CCSWCD: 150, PWD: 1,679)

Lesson topics: Nonpoint source pollution, stormwater, storm drains, cumulative impact, and wastewater; sustainable development to minimize impact on river; global water distribution, conservation, and the water cycle; branching patterns, water systems/movement, watersheds; runoff, stormwater, nonpoint source pollutants, solutions; Maine's brook trout: habitat requirements, life cycle, anatomy, field trip to Casco Hatchery, classroom tank set-up and maintenance; impervious/pervious surfaces, nonpoint source pollutants, shorefront landscape design, vegetated buffers; water quality monitoring, macroinvertebrates, mock bioassessment; erosion, best management practices, landscape evaluation and redesign; trout release and water quality field trips at the Presumpscot River: water quality testing, macroinvertebrate sampling, streamside assessment hike, local history; forests' ecology and ability to filter water; Maine's frogs and vernal pools; treatment and laboratory analysis of drinking water and wastewater; benefits of tap water and tap water/bottled water taste test

Schools: Gorham Middle School, Great Falls Elementary School, Gorham High School, University of Southern Maine

Educator: CCSWCD, PWD

### **Old Orchard Beach**

Total students: 50

Total contact hours: 150

Lesson topics: Amount of water in the world, conservation, and the water cycle; watersheds and water movement; nonpoint source pollution, stormwater, storm drains, cumulative impact, and wastewater

Schools: Loranger Middle School

Educator: CCSWCD

### **Portland**

Total students: 752 (CCSWCD: 286, PWD: 466)

Total contact hours: 1,857 (CCSWCD: 1,430, PWD: 427)

Lesson topics: Nonpoint source pollution, stormwater, storm drains, and cumulative impact; sources of marine debris; marine debris, nonpoint source pollution, and ocean currents (additional funding was secured for these high school lessons); reducing impact on waterways by changing lawn care practices (Youth YardScaping)<sup>6</sup>; global water distribution, conservation, and the water cycle; branching patterns, water systems/movement, watersheds; runoff, stormwater, nonpoint source pollutants, solutions; Maine's brook trout: habitat requirements, life cycle, anatomy, field trip to Casco Hatchery, classroom tank set-up and maintenance; impervious/pervious surfaces, nonpoint source pollutants, shorefront landscape design, vegetated buffers; water quality monitoring, macroinvertebrates, mock bioassessment; erosion, best management practices, landscape evaluation and redesign; treatment and laboratory analysis of wastewater; benefits of tap water and tap water/bottled water taste test

Schools: Lincoln Middle School, McAuley High School, Deering High School, Longfellow Elementary School, Lyman Moore Middle School, Glickman Academy (Spurwink Services), Southern Maine Community College, University of New England

Educator: CCSWCD, PWD

### **Saco**

Total students: 10

Total contact hours: 10

Lesson topics: Watersheds, water holding capacity of soil, filtering capacity of different soils

Schools: Thornton Academy

Educator: CCSWCD

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<sup>6</sup> Additional funding for Youth YardScaping provided by the City of Portland



### **Scarborough**

Total students: 318 (CCSWCD: 230, PWD: 88)

Total contact hours: 741 (CCSWCD: 230, PWD: 511)

Lesson topics: Marine debris, nonpoint source pollution, and ocean currents<sup>7</sup>; global water distribution, conservation, and the water cycle; branching patterns, water systems/movement, watersheds; runoff, stormwater, nonpoint source pollutants, solutions; Maine's brook trout: habitat requirements, life cycle, anatomy, field trip to Casco Hatchery, classroom tank set-up and maintenance; impervious/pervious surfaces, nonpoint source pollutants, shorefront landscape design, vegetated buffers; water quality monitoring, macroinvertebrates, mock bioassessment; erosion, best management practices, landscape evaluation and redesign

Schools: Wentworth Intermediate School, Scarborough High School, Scarborough Middle School

Educator: CCSWCD, PWD

### **South Portland**

Total students: 320 (CCSWCD: 49, PWD: 271)

Total contact hours: 1,669 (CCSWCD: 147, PWD: 1,522)

Lesson topics: Watersheds and watershed models; water cycle, water movement; bioassessment process to determine water quality; global water distribution, conservation, and the water cycle; branching patterns, water systems/movement, watersheds, runoff, stormwater, nonpoint source pollutants, solutions; Maine's brook trout: habitat requirements, life cycle, anatomy, field trip to Casco Hatchery, classroom tank set-up and maintenance; impervious/pervious surfaces, nonpoint source pollutants, shorefront landscape design, vegetated buffers; water quality monitoring, macroinvertebrates; erosion, best management practices, landscape evaluation and redesign; trout releases in Trout Brook: water quality testing, macroinvertebrate sampling, streamside assessment hike

Schools: Small Elementary School, Memorial Middle School, Mahoney Middle School, Skillin Elementary School, Dyer Elementary School

Educator: CCSWCD, PWD

### **Westbrook**

Total students: 244 (CCSWCD: 8, CCSWCD & PWD: 160, PWD: 76)

Total contact hours: 900 (CCSWCD: 8, CCSWCD & PWD: 800, PWD: 92)

Lesson topics: Watershed ecology: Students evaluated the health of the Presumpscot River during a field trip to two sites on the River, one rural and one urban; water quality parameters and testing; bioassessment using macroinvertebrate sampling; river characteristic observations; compared data from the two sites to develop their ideas about human impact on the river ecosystem<sup>8</sup>; ocean currents and marine debris; chemical water quality tests, macroinvertebrate sampling, and water quality assessment on the Presumpscot River

Schools: Westbrook High School, Westbrook Community Center After-School Program

Educator: CCSWCD, PWD

### **Windham**

Total students: 310 (CCSWCD: 53, PWD: 257)

Total contact hours: 1,405 (CCSWCD: 150, PWD: 1,255)

Lesson topics: Water cycle, water movement; water quality parameters and testing, bioassessment using macroinvertebrate sampling, river characteristic observations; sustainable development to minimize impact on river; global water distribution, conservation, and the water cycle; branching patterns, water systems/movement, watersheds; runoff, stormwater, nonpoint source pollutants, solutions; Maine's brook trout: habitat requirements, life cycle, anatomy, field trip to Casco Hatchery, classroom tank set-up and maintenance; impervious/pervious surfaces, nonpoint source pollutants, shorefront landscape design, vegetated buffers; water quality monitoring, macroinvertebrates, mock bioassessment; erosion, best management practices, landscape evaluation and redesign; trout release in the Pleasant River: water quality testing, macroinvertebrate sampling, streamside assessment hike; "Discovering Water" book project: Book about various water topics produced by WHS students for a middle school audience, finalized and printed book, hosted publication party

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<sup>7</sup> Additional funding for ocean currents lessons provided by Scarborough School Department

<sup>8</sup> Additional funding for student field trip provided by the Westbrook Environmental Improvement Corporation



Schools: Manchester Elementary School, Windham High School, Windham Middle School  
Educator: CCSWCD, PWD

**Yarmouth**

Total students: 242

Total contact hours: 242

Lesson topics: Water pollution, nonpoint source pollution, soil as pollutant; impervious/pervious surfaces, runoff, and best management practices; groundwater resources and pollution prevention<sup>1</sup>

Schools: Yarmouth Elementary School, Yarmouth Middle School

Educator: CCSWCD

**Educator contact information**

**CCSWCD:** Deb Debiegun, District Educator, Cumberland County Soil & Water Conservation District, [ddebiegun@cumberlandswcd.org](mailto:ddebiegun@cumberlandswcd.org), 207-892-4700 x 101.

**PWD:** Sarah Plummer, Environmental Education Coordinator, Portland Water District, [splummer@pwd.org](mailto:splummer@pwd.org), 207-774-5961 x3324.



## MCM2: Public Involvement and Participation

### Urban Runoff & Green Neighbor Family Fest

2015 marked the fourth year ISWG supported, coordinated, promoted, and participated in the Urban Runoff and Green Neighbor Family Fest, a day-long community event that promotes clean water and raises awareness of water pollution. In addition to raising awareness, funds raised from the Urban Runoff and Green Neighbor Family Fest support ISWG’s in-school youth education program. With approval from Maine DEP, the race and festival, held on April 25, 2015, served as the Public Involvement and Participation event for all ISWG communities. Each community’s participants are summarized in the table below.

By all accounts, the event was a huge success. Approximately 700 runners and walkers registered for the race, and many local businesses supported the race through sponsorships, in-kind donations, and employee participation as race participants and volunteers. Local media outlets advertised the events, including the donation of radio advertisement during the months of March and April by 98.9 WCLZ. WMTW News Channel 8 promoted the events prior to April 25<sup>th</sup>, and they attended the race and festival to provide news coverage of the events. Social media, paid online advertising, posters, and direct mail and email were also used to promote the race and included a clean water message. Additional clean water messages were included on the event website, social media, eblasts, and other marketing tools that were sent to all registered participants, sponsors, and partners.

Anecdotes as well as a post-race survey completed by race participants demonstrate the success of the race’s planning and implementation. Many survey respondents indicated the race’s cause: clean water and youth education, was a major reason why they chose to participate.

The *Green Neighbor Family Fest* was held after the race at Deering High School. The event ran for three hours and was attended by approximately 700 people. Scheduled events included the awards ceremony and a live music. A total of 21 exhibits were set up by local nonprofit and governmental organizations, universities, and businesses to provide hands-on, educational activities for children. These activities included a marine touch tank, making “seed bombs” (seeds rolled in compost), water quality experiments, and many more. Children also took part in face painting and water related prize giveaways.

Plans are underway to host the fifth annual *Urban Runoff* 5K and *Green Neighbor Family Fest* on Saturday, April 23, 2016.

#### Summary of ISWG Municipal Involvement in the 2015 Urban Runoff & Green Neighbor Family Fest

	Race Participants	Volunteers	Municipal Team (number of members)	Posters Provided for Distribution	Additional Contribution
Biddeford	2			25	
Cape Elizabeth	10			16	
Cumberland	27			19	
Falmouth	17		5	21	
Freeport	3	1		25	
Gorham	35			19	
Old Orchard Beach	2	2		21	
Portland	194	15		50	Permit fees waived; display at festival
Saco	24	4	18	28	



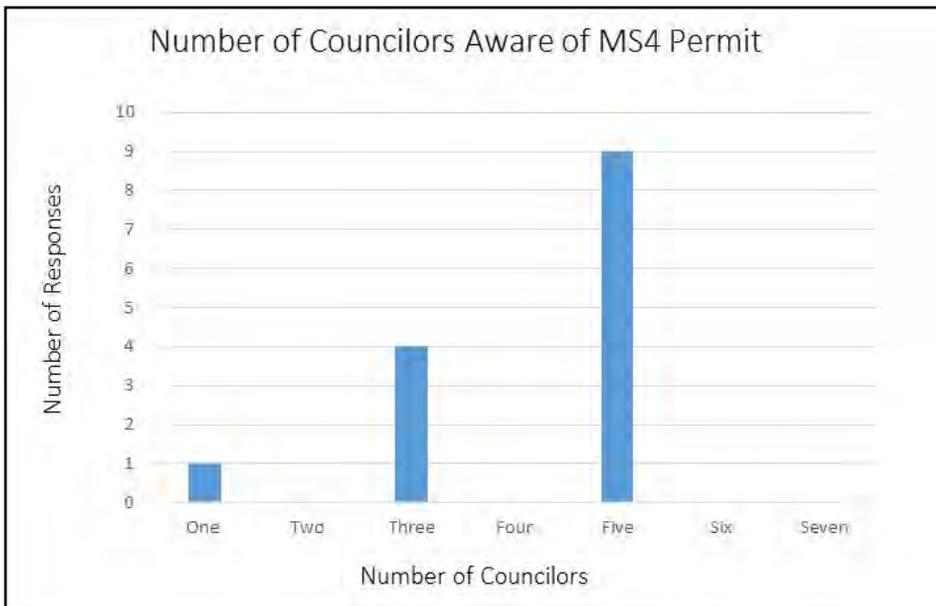
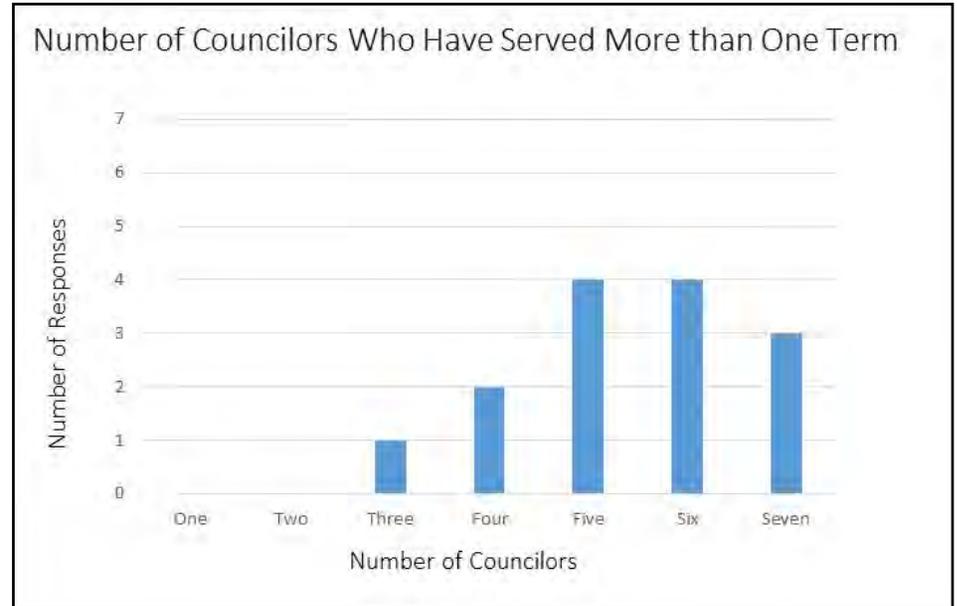
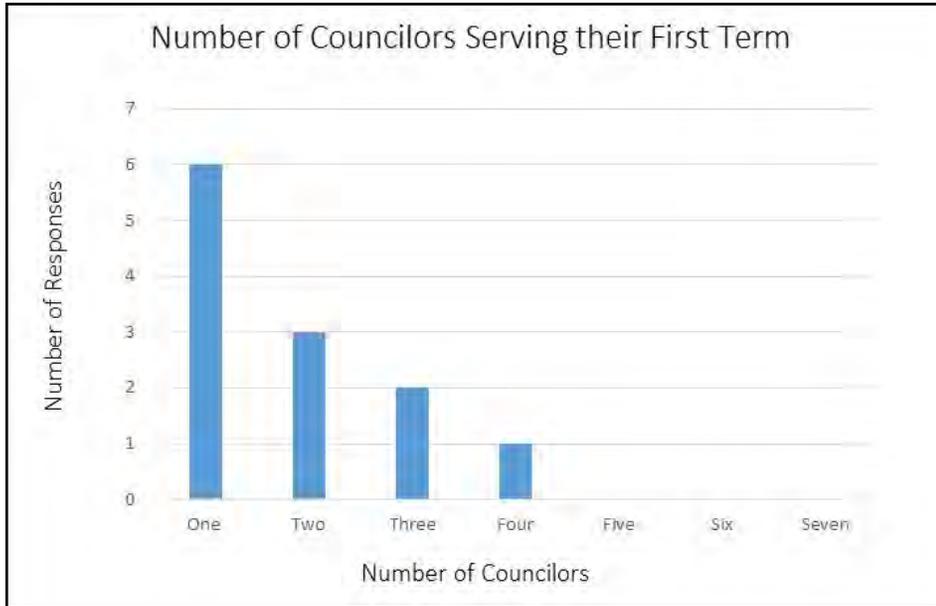
ISWG Permit Year 2 Summary of Minimum Control Measures 1 & 2

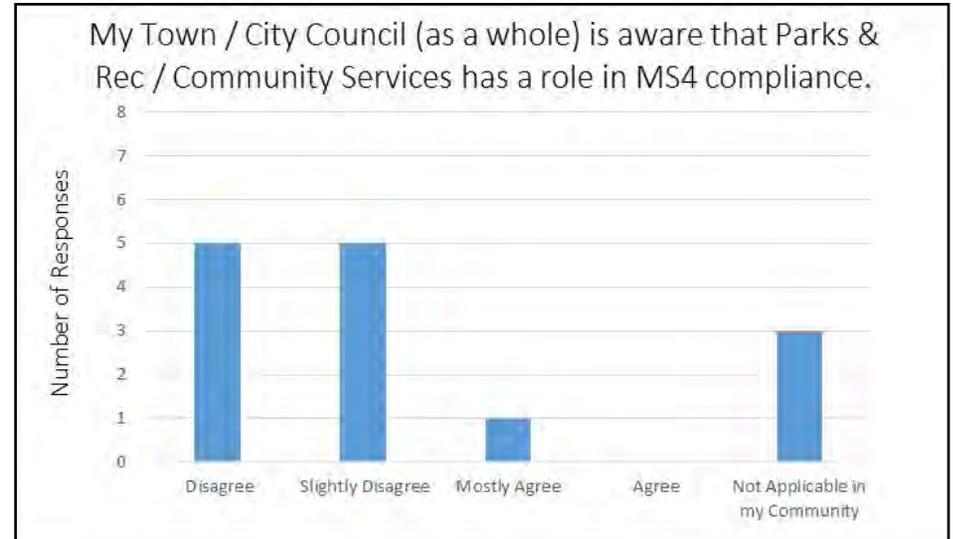
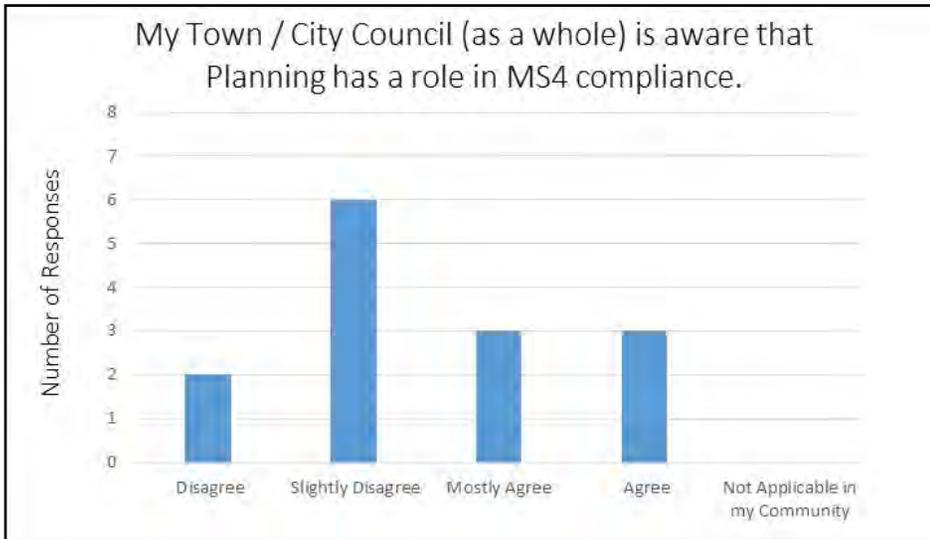
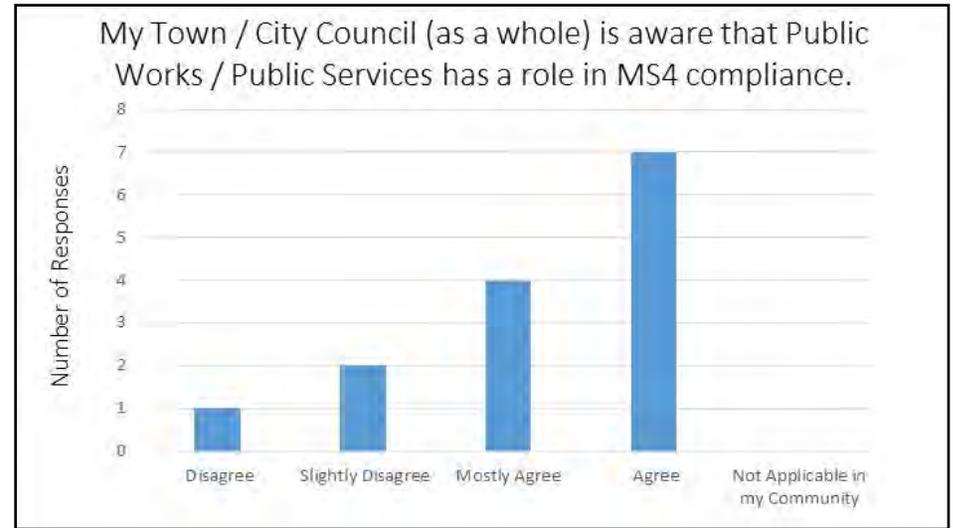
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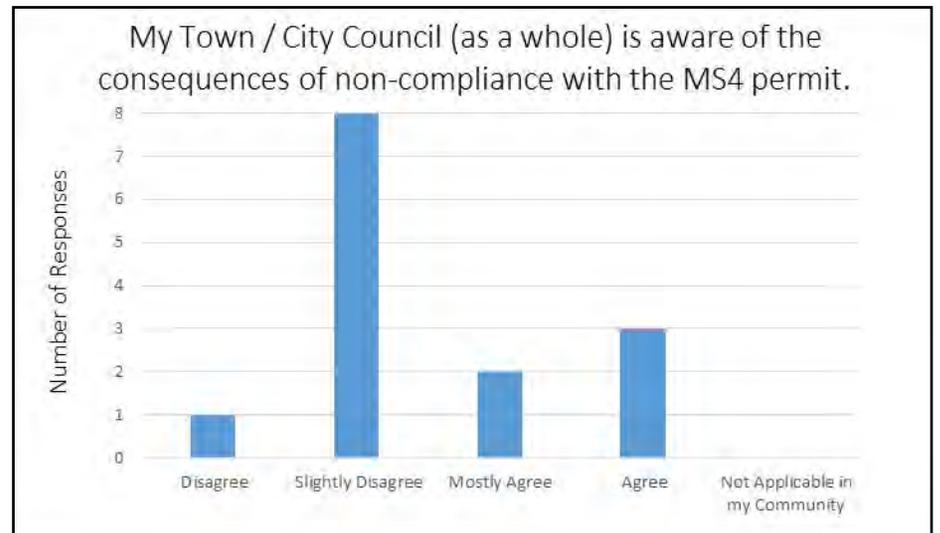
Scarborough	42	7		24	
South Portland	62	5		28	\$500
Westbrook	39	3	5	22	
Windham	19	5		23	
Yarmouth	10	3		19	



### APPENDIX A-2: Permit Year 2 Summary of Municipal Survey Responses







**APPENDIX A-3**  
**Permit Year 3**

**ISWG Summary of Minimum Control Measures 1 & 2**  
**Portland FOG & Pet Waste Flier**  
**Stormwater BMP Tracking & Reporting Flow Chart**  
**CCSWCD MS4 Support Summary**



## APPENDIX A-1: Permit Year 3 (PY3) Summary of Minimum Control Measures 1 & 2

The following is a summary of work facilitated by the Cumberland County Soil & Water Conservation District (CCSWCD) on behalf of the Interlocal Stormwater Working Group (ISWG), and in some instances for all statewide municipalities.

### MCM1: Public Education and Outreach on Stormwater Impacts

#### Stormwater Public Awareness Plan

Task	Status	Details <sup>1</sup>						
Summarize plan implementation to date	complete	Plan goal: As a result of our efforts, at the end of this permit cycle, 50% of homeowners, aged 35-55, in the 30 regulated small MS4 municipalities will understand that water does run off their property, not all is absorbed, and it will carry with it pollutants, such as lawn chemicals, pet waste, and oil drops. This polluted water will enter the storm drain system and discharge, untreated, directly to water bodies used for drinking, fishing, and swimming.						
Conduct awareness media campaign utilizing television and online advertising	complete	CCSWCD coordinated a statewide television and online media campaign through Time Warner Cable. The original ducky and devil ducky ads ran two weeks per month from March through June 2016 in PY3. The ads were shown on cable television stations most likely to reach the target audience (i.e., homeowners, aged 35-55, in Maine's 30 MS4 communities), including: AMC, Animal Planet, CNN, Discovery, ESPN, Food Network, Freeform (formally ABC Family), FX, Fox News, HGTV, NESN, National Geographic, Nickelodeon, Outdoor Network, The Weather Channel.						
		The following television campaign data were provided by Time Warner Cable:						
		<table border="1"> <thead> <tr> <th>Television Airplay</th> <th>Est. Reach<sup>2</sup></th> <th>Est. Frequency<sup>3</sup></th> </tr> </thead> <tbody> <tr> <td>525</td> <td>52%</td> <td>4.3</td> </tr> </tbody> </table>	Television Airplay	Est. Reach <sup>2</sup>	Est. Frequency <sup>3</sup>	525	52%	4.3
		Television Airplay	Est. Reach <sup>2</sup>	Est. Frequency <sup>3</sup>				
		525	52%	4.3				
CCSWCD developed online ads with a clean water message that directed users to the Think Blue Maine website. Time Warner Cable placed the ads on websites most likely to reach the target audience (e.g. local and national news websites, outdoor-themed sites). The online ad campaign ran continuously from March through June 2016. The average number of impressions <sup>4</sup> for two-day periods throughout the online ad campaign was approximately 4,500. Time Warner Cable also placed a full-screen advertisement and link to <a href="http://www.ThinkBlueMaine.org">www.ThinkBlueMaine.org</a> on their webmail login screen for a specified two-day period in March. During this time period, ad impressions spiked to nearly 32,000.								
The following online campaign data were provided by Time Warner Cable:								
<table border="1"> <tbody> <tr> <td>Impressions<sup>4</sup></td> <td>628,789</td> </tr> <tr> <td>Click thru rate<sup>5</sup></td> <td>0.22% (national average is 0.04%)</td> </tr> </tbody> </table>	Impressions <sup>4</sup>	628,789	Click thru rate <sup>5</sup>	0.22% (national average is 0.04%)				
Impressions <sup>4</sup>	628,789							
Click thru rate <sup>5</sup>	0.22% (national average is 0.04%)							

<sup>1</sup> CCSWCD maintains a documentation notebook for all MCM 1&2 activities.

<sup>2</sup> Reach is the percentage of the audience that saw the television ads.

<sup>3</sup> Frequency is the number of times the audience saw the television ads.

<sup>4</sup> Impressions are the number of times users saw the online ads.

<sup>5</sup> Click thru rate is the number of users that click on a specific link out of the total users that view a page, email, or advertisement.



Promote and participate in local public event	complete	<p><i>Promotion</i></p> <p>With the help of ISWG representatives, CCSWCD promoted ISWG’s public event, the Urban Runoff 5K and Green Neighbor Family Fest, via social media, paid online ads, and direct email communication to participants. In addition, 340 posters were distributed throughout the 14 ISWG communities by ISWG representatives; radio ads aired on 98.9 WCLZ during the month of April. In addition, News 8 WMTW developed a 20 second ad that ran on their station throughout the month of April. They also conducted 6 live interviews the morning of the event, and attended the race and festival on April 23, 2016.</p>
		<p><i>Participation</i></p> <p>Representatives from the ISWG municipalities volunteered or participated at the events, on April 23, 2016. Many representatives provided logistical support for the race and festival (e.g. flagging, parking set up, etc.). In addition, the City of Portland and other organizations provided educational activities focused on keeping water clean. Please see the MCM2 summary for more details about the events.</p>
Develop standard impact evaluation protocol	complete & ongoing	<p>CCSWCD updated the existing evaluation survey (i.e., originally developed by DEP) for evaluating impact of our awareness activities in PY3. Revisions to the evaluation survey were based on experiences with the MS4 evaluation survey conducted in the previous permit cycle (i.e., 2008-2013), DEP’s intercept survey (circa 2007), other surveys carried out by CCSWCD (i.e., Capisic Brook evaluation survey in 2013), and feedback from MS4 colleagues. The revised survey draft was distributed to representatives from Maine’s MS4 clusters for review and revision.</p> <p>survey will be finalized and administered in PY4, as indicated in the timeline of the approved Statewide Awareness Plan.</p>
Additional activities not identified in the plan	complete	<p>CCSWCD redesigned <a href="http://www.ThinkBlueMaine.org">www.ThinkBlueMaine.org</a> and upgraded the site to a WordPress platform. The redesign and upgrade allows content to be more readily added to facilitate more frequent updates.</p>

**Targeted Best Management Practices Adoption Plan**

Task	Status	Details
Summarize plan implementation to date	complete	<p>Plan goal: As a result of our efforts, at the end of this permit cycle, 15% of college-educated homeowners, aged 35-55, residing in the urbanized area and/or the priority watershed within the ISWG communities and who currently apply fertilizers and pesticides to their lawns will reduce their use of lawn chemicals.</p>

**Point of Sale**

Retain 21 Point of Sale locations in the ISWG communities	complete	<p>The ISWG YardScaping Point of Sale Program continued to be maintained at more than the 21 locations required. Twenty-two stores participated in PY3, with one store declining to participate in PY3. The distribution of the stores in PY3 is as follows:</p>
		Biddeford: 1
		Cape Elizabeth: 0
		Cumberland: 1
		Falmouth: 2



		Freeport: 1
		Gorham: 2
		Old Orchard Beach: 0
		Portland: 3
		Saco: 1
		Scarborough: 1
		South Portland: 3
		Westbrook: 2
		Windham: 3
		Yarmouth: 2
Maintain Point of Sale program in Home Depot stores within ISWG communities	complete	The ISWG YardScaping Point of Sale program continued to be maintained in the four Home Depot stores located in ISWG municipalities (Biddeford, Portland, South Portland, and Windham). Program components include a staff training, distribution of educational materials to the general public, and an educational event for customers at each store.

**Adult Education**

Offer a minimum of seven adult education events per year on YardScaping practices	complete	Once again, the number of YardScaping educational events offered in the ISWG municipalities far exceeded the minimum on the Plan. In PY3, 12 YardScaping events were provided as follows:
		Portland: 9/12/15, Greenfest, 63 participants
		Scarborough: 9/17/2015, adult education class, 12 participants
		Yarmouth: 9/22/2015, adult education class, 2 participants
		Biddeford: 10/19/2015, adult education class, 10 participants
		Scarborough: 3/29/2016, adult education class, 7 participants
		Portland: 4/4/2016, Home Depot staff training, 4 participants
		Biddeford: 4/7/2016, Home Depot staff training, 1 participant
		South Portland: 5/2/2016, Home Depot staff training, 14 participants
		Windham: 5/7/2016, Home Depot community education event/staff training, 14 participants
		Portland: 5/14/2016, Home Depot community education event/staff training, 16 participants
		Yarmouth: 5/14/16, Yarmouth Public Works Open House, 32 participants
		Biddeford: 5/14/2016, Home Depot community education event/staff training, 27 participants
Promote adult education classes	complete	Information on YardScaping classes was published in local adult education brochures, via direct mail, using social media, and through host locations.
Track behavior change	complete	CCSWCD staff documented class evaluations and contacted past adult education class participants to determine which YardScaping practices were implemented. Please see summary of behavior change reported by participants of PY2 classes, as well as those practices participants of PY3 classes intend to implement below.

**Adult Education Behavior Change Tracking**

During the fall of 2015, phone calls were made to participants of YardScaping adult education classes held in the fall of 2014 and spring of 2015 in order to determine class participants' level of implementation of the YardScaping practices. Follow up phone calls are made six months to one year after the class to allow participants a growing season to implement the recommended practices. Our follow-up provided an anticipated rate of compliance for the YardScaping



practices that class participants intended to implement.

<b>Permit Year 2 Post-Class Evaluations</b>			
<b>Lawn Care Practice</b>	<b>Plan to implement</b>	<b>Implemented Practice</b>	<b>% behavior change</b>
Set Mower to a height of 3"	4	3	75.0%
Leave grass clippings	4	3	75.0%
Sharpen mower blades	3	2	66.7%
Aerate	5	1	20.0%
Topdress	5	2	40.0%
Overseed	3	2	66.7%
Use low maintenance seed	4	2	50.0%
Get a soil test	3	1	33.3%
Use nitrogen-only fertilizer	5	3	60.0%
Use compost tea	6	3	50.0%

Below are the results of the Permit Year 3 post-class evaluations completed by the YardScaping class participants.

<b>Permit Year 3 Post-Class Evaluations</b>			
<b>Lawn Care Practice</b>	<b>Plan to implement</b>	<b>Currently do not implement</b>	<b>% planning to implement</b>
Set Mower to a height of 3"	10	10	100.00%
Leave grass clippings	11	11	100.00%
Sharpen mower blades	11	12	91.67%
Aerate	22	26	84.62%
Topdress	20	26	76.92%
Overseed	22	24	91.67%
Use low maintenance seed	23	23	100.00%
Get a soil test	25	27	92.59%
Use nitrogen-only fertilizer	22	26	84.62%
Use compost tea	19	25	76.00%

CCSWCD staff will contact the class participants from the Permit Year 3 classes in Permit Year 4 to determine which behaviors have been adopted.

**Targeted Information Distribution**

Distribute lawn care information in one targeted neighborhood per ISWG community	complete	YardScaping information was distributed throughout priority neighborhoods in each ISWG community. The following number of households received information:
		Biddeford: 113
		Cape Elizabeth: 79
		Cumberland: 115
		Falmouth: 116
		Freeport: 87
		Gorham: 125
		Old Orchard Beach: 109
Portland: 353		



		Saco: 255
		Scarborough: 115
		South Portland: 117
		Westbrook: 103
		Windham: 311
		Yarmouth: 89

**Websites & Free Media**

Maintain and monitor CCSWCD YardScaping website	complete	CCSWCD has launched its newly redesigned website. The YardScaping section is now up-to-date with YardScaping partner stores and updated fact sheets. The YardScaping calendar of events is still in development. Community events and classes are advertised through CCSWCD's Facebook page.
Newspaper coverage of YardScaping activities and healthy lawn care	complete	<i>Portland Press Herald: Letter to the Editor: Casco Bay steward offers kudos to chemical-free lawn care professionals (July 2, 2015)</i>
		<i>Portland Press Herald: What to plant when you no longer want a lawn (July 5, 2015)</i>
		<i>The Sentry: Lawn Care can help reverse global warming (September 11, 2015)</i>
		<i>Portland Press Herald: Letter to the Editor: Portland should ban lawn products containing pesticides (October 6, 2015)</i>
		<i>Portland Press Herald: Portland citizens' group proposes broad pesticide ban (October 7, 2015)</i>
		<i>The Sunrise Guide Blog: A Healthy Fall Lawn Makes for a Happy Spring (October 9, 2015)</i>
		<i>The Sentry: Couple raises alarm over pollutants on Willard (October 16, 2015)</i>
		<i>Portland Press Herald: Pesticide ordinance would have Portland flourishing responsibly (February 1, 2016)</i>
		<i>Portland Press Herald: The grass is not always greener. On our lawns, that is (March 27, 2016)</i>
		<i>Portland Press Herald: South Portland gives initial approval to pesticide ban (April 5, 2016)</i>
<i>Portland Press Herald: Letter to the Editor: Pesticide-free green lawns? Learn how from the experts (April 14, 2016)</i>		
<i>Portland Press Herald: The incredible shrinking lawn: It's a movement that should grow (May 1, 2016)</i>		

**Additional Activities not Identified in the Plan**

Purchased ad space	complete	ISWG/CCSWCD placed a 1/6-page color ad promoting the YardScaping program in the Fall 2015 / Winter 2016 edition of <i>Green and Healthy Maine Homes</i> magazine. An article about fall lawn care was also submitted, but it was not published in the magazine. (The article was made available on the Sunrise Guide website: <a href="http://thesunriseguide.com/a-healthy-fall-lawn-makes-for-a-happy-spring/">http://thesunriseguide.com/a-healthy-fall-lawn-makes-for-a-happy-spring/</a> .)
Materials development	complete	CCSWCD developed a new educational brochure to accompany displays at point of sale retailers. This new handout provides an overview of the YardScaping program and a schedule for carrying out recommended practices. The brochure is also available online at <a href="http://www.cumberlandswcd.org">www.cumberlandswcd.org</a> (click on the YardScaping ducky logo to access the YardScaping page).



**Municipal Permit Awareness Plan**

Task	Status	Details
Summarize plan implementation to date	complete	Plan goal: As a result of our efforts, at the end of this permit cycle, municipal councilors, managers, and directors of Planning, Public Works, and Parks & Recreation (or equivalent) departments in the ISWG communities will understand that they are subject to a Maine Pollutant Discharge Elimination System (MPDES) permit and will understand the requirements under that permit. They will also gain an understanding of stormwater pollution, how their municipal operations may contribute to stormwater pollution, and steps that can be taken to reduce stormwater pollution.

**Materials Development**

Develop permit awareness materials	complete & ongoing	<p><b>Fact Sheets:</b> Fact sheets developed in PY2 were updated for ISWG municipalities as needed in PY3. These fact sheets were provided to new council members in ISWG municipalities.</p> <p><b>PowerPoint:</b> The PowerPoint presentation developed in PY2 was updated/tailored for the municipalities identified to receive targeted municipal outreach in PY3.</p> <p><b>Public Works Brochure:</b> CCSWCD modified the “Clean Water is Everyone’s Job” poster that was developed in PY2 to create a tri-fold brochure for distribution at annual trainings and events (e.g. Highway Congress). Similar to the poster, the brochure outlines important good housekeeping and pollution prevention practices, including proper vehicle washing, chemical storage, and spill response.</p>
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**Targeted Outreach**

Provide targeted outreach to four to five ISWG communities each Permit Year.	complete	CCSWCD provided targeted outreach to municipal staff and elected officials in Westbrook, South Portland, Cape Elizabeth, Gorham, and Windham during PY3. The designated MS4 stormwater coordinator from each municipality worked with CCSWCD staff to determine what support would be most beneficial to their stormwater programs in their community. CCSWCD was able to tailor efforts to the specific needs of each municipality by offering many varied methods of support. CCSWCD offered numerous trainings, facilitation of interdepartmental meetings, support and training for fieldwork components of the stormwater program, support and training for municipal and construction site inspections, and more.		
		Westbrook	10/07/15	Initial planning /consultation meeting with MS4 Coordinator
			03/11/16	Interdepartmental meeting: City Manager, Department of Public Works (DPW), Schools, Police, Fire, Code Enforcement, Planning
			06/16/16	Code Enforcement Training: 1 hour – erosion and sedimentation control at construction sites
			05/31/16	Westbrook hosted Cumberland County Municipal Managers’ Meeting to discuss stormwater and regional needs
		South Portland	10/07/16	Initial planning /consultation meeting with Stormwater Coordinator
12/15/16	Construction Project oversight meeting: Water Resources Protection, Code Enforcement,			



				Planning
			02/02/16	Second Construction Project oversight meeting: Water Resources Protection, Code Enforcement, Planning
			03/08/16	Presentation to Planning Board: MS4 Permit 101 (provided by City staff)
		Cape Elizabeth	09/22/15	Initial planning /consultation meeting with MS4 Coordinator (conference call)
			03/23/16	Meeting to discuss pool discharge fact sheet
			07/12/16	Pool discharge fact sheet delivered to municipality for review and distribution
		Gorham	09/16/15	Initial planning /consultation meeting with MS4 Coordinator
			03/10/16	Meeting with MS4 Coordinator to discuss outfall inspection project, council presentation
			08/02/16	Presentation to City Council: MS4 Permit 101
		Windham	09/16/15	Initial planning /consultation meeting with MS4 Coordinator
			01/11/16	Interdepartmental meeting: DPW, Code Enforcement, Parks & Recreation, Police, Fire, Planning, Town Manager, GIS, Facilities
			2/16/16	CCSWCD staff provided council presentation regarding MS4, TMDL, and ongoing watershed protection projects
			03/28/16	Inspection follow-up meeting: Town manager, DPW, Planning

**General Outreach**

Provide presentation to municipal councils or planning boards about municipal stormwater program	complete	Under ISWG's Municipal Permit Awareness Plan, each municipality is required to provide a presentation to their municipal council or planning board about their MS4 program during each permit year. Municipalities may elect to receive CCSWCD support for the presentation to Council (noted below).
		Cape Elizabeth: 03/21/16
		Cumberland: 06/21/16
		Falmouth: 5/31/16 (County Managers' Meeting)
		Freeport: 01/05/16
		Gorham: 08/2/16 (CCSWCD)
		Old Orchard Beach: 05/03/16
		Portland: 04/11/16
		Saco: 06/16/16 (CCSWCD)
		Scarborough: 04/04/16
		South Portland: 03/10/16
		Westbrook: 12/14/15
		Windham: 02/16/16 (CCSWCD)
		Yarmouth: 05/11/16



**Cooperative Outreach**

Provide outreach through a minimum of one partner organization	complete	<p><b>Winter Maintenance Roundtable – 9/10/15</b></p> <p>ISWG/CCSWCD partnered with BASWG, MaineDOT, and the Long Creek Watershed Management District to provide a winter maintenance roundtable for municipal public works staff. The day-long event provided an introduction to the new <i>Maine Winter Maintenance BMP Manual</i>, training on winter maintenance operations outlined in the manual, winter maintenance case studies, and a roundtable discussion.</p>	<table border="1"> <thead> <tr> <th>Municipality</th> <th>Number of Attendees</th> </tr> </thead> <tbody> <tr><td>Biddeford</td><td>0</td></tr> <tr><td>Cape Elizabeth</td><td>0</td></tr> <tr><td>Cumberland</td><td>2</td></tr> <tr><td>Falmouth</td><td>0</td></tr> <tr><td>Freeport</td><td>2</td></tr> <tr><td>Gorham</td><td>0</td></tr> <tr><td>Old Orchard Beach</td><td>0</td></tr> <tr><td>Portland</td><td>6</td></tr> <tr><td>Saco</td><td>0</td></tr> <tr><td>Scarborough</td><td>2</td></tr> <tr><td>South Portland</td><td>4</td></tr> <tr><td>Westbrook</td><td>2</td></tr> <tr><td>Windham</td><td>1</td></tr> <tr><td>Yarmouth</td><td>1</td></tr> </tbody> </table>	Municipality	Number of Attendees	Biddeford	0	Cape Elizabeth	0	Cumberland	2	Falmouth	0	Freeport	2	Gorham	0	Old Orchard Beach	0	Portland	6	Saco	0	Scarborough	2	South Portland	4	Westbrook	2	Windham	1	Yarmouth	1
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			Yarmouth	1	
		<p><b>Highway Congress – 6/2/16</b></p> <p>An interactive educational booth about spill response procedures was staffed at APWA’s annual Highway Congress, held on June 2, 2016. Time out for Training, a program coordinated by Maine Local Roads, ensured that 137 people visited the booth.</p>	<b>Municipality</b>	<b>Reps. from ISWG who visited booth</b>	
			Biddeford	0	
			Cape Elizabeth	7	
			Cumberland	0	
			Falmouth	0	
			Freeport	2	
			Gorham	3	
			Old Orchard Beach	0	
			Portland	5	
			Saco	0	
			Scarborough	1	
			South Portland	0	
			Westbrook	0	
			Windham	3	
		Yarmouth	0		
		<p><b>Low Impact Development Lunch &amp; Learn – 6/22/16</b></p> <p>CCSWCD and ACF Environmental collaborated to provide a 2-hour lunch and learn about LID and Green Infrastructure concepts. The training provided overviews and case studies for ACF’s stormwater solution products.</p> <p>A total of 29 people attended the training, including ISWG municipal representatives and design consultants who work in ISWG municipalities.</p>	<b>Municipality</b>	<b>Registered Municipal Attendees</b>	
			Biddeford	2	
			Cape Elizabeth	0	
			Cumberland	0	
			Falmouth	0	
			Freeport	0	
			Gorham	0	
			Old Orchard Beach	0	
			Portland	5	
			Saco	1	
			Scarborough	0	
			South Portland	0	
			Westbrook	0	
			Windham	0	
		Yarmouth	0		
		<p><b>Cumberland County Clean Water Council – 5/26 &amp; 6/30/16</b></p> <p>CCSWCD assisted the Cumberland County government and Greater Portland Council of</p>	<b>Municipality</b>	<b>Attended on 5/26</b>	<b>Attended on 6/30</b>
			Biddeford	1	0
			Cape Elizabeth	0	0
			Cumberland	0	0



		<p>Governments to bring together municipal leaders from Cumberland County and the surrounding region to identify opportunities to collaborate for clean water.</p> <p>A large group met on May 26<sup>th</sup> and generated an extensive list of needs and collaboration opportunities. A subset of attendees volunteered to serve on the design and mission team to identify a path forward. The design and mission team met on June 30<sup>th</sup> and will continue to meet throughout PY4.</p>	Falmouth	1	1	
			Freeport	0	0	
			Gorham	0	0	
			Old Orchard Beach	2	0	
			Portland	3	1	
			Saco	3	1	
			Scarborough	2	0	
			South Portland	4	0	
			Westbrook	1	0	
			Windham	1	1	
			Yarmouth	2	0	
<p>A minimum of one representative from each ISWG municipality will attend the Maine Stormwater Conference</p>	complete	<b>Municipality</b>		<b>Registered Municipal Attendees</b>		
		Biddeford			3	
		Cape Elizabeth			1	
		Cumberland			1	
		Falmouth			2	
		Freeport			2	
		Gorham			1	
		Old Orchard Beach			2	
		Portland			9	
		Saco			1	
		Scarborough			5	
		South Portland			5	
		Westbrook			4	
		Windham			2	
Yarmouth			3			
<p>Provide regional Good Housekeeping / Pollution Prevention Training</p>	complete	<b>Municipality</b>		<b>Municipal Staff in Attendance on 6/24/16</b>		
		Biddeford			0	
		Cape Elizabeth			0	
		Cumberland			0	
		Falmouth			2	
		Freeport			1	
		Gorham			0	
		Old Orchard Beach			0	
		Portland			4	
		Saco			4	
		Scarborough			0	
		South Portland			16	
		Westbrook			12	



		Windham	0
		Yarmouth	0

**Evaluation**

Conduct annual survey of ISWG municipalities to gauge awareness	complete	The survey was administered to ISWG representatives in PY3. See summary of survey responses in Appendix A-2.
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**Additional Activities not Identified in the Plan**

Additional materials developed	complete	<p><b>Construction Inspection Checklist:</b> CCSWCD worked with an ISWG subcommittee and local consultants and developers to create a comprehensive construction inspection checklist to be used for construction projects of 1 acre or greater within municipal urbanized areas. The inspection checklist incorporates the erosion and sedimentation control requirements outlined in the Maine Construction General Permit and Chapter 500, which are referentially included in the MS4 permit.</p> <p><b>Code Enforcement Training:</b> CCSWCD developed a two-hour training session to educate municipal code enforcement officers (CEO) about proper erosion and sedimentation best management practices, municipal non-stormwater discharge ordinance, and other relevant MS4 permit requirements. The training was developed with assistance from Windham’s CEO and piloted with Westbrook’s Code Enforcement staff. The training will be offered to CEOs in the larger ISWG group in PY4.</p>
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**MS4 Enhanced Outreach Plan**

Task	Status	Details
Summarize plan implementation to date	complete	Plan goal: Provide the Environment and Natural Resources Committee and the legislature with information about use and environmental impacts of coal tar sealants in the state, and the viability of potential alternative products, so they can make an informed decision about legislating the use of coal tar sealants.
Provide status report to DEP by February 1, 2016 (requested in Plan approval letter)	complete	<p>ISWG and the York County MS4s submitted the status report to DEP on January 29, 2016. The report summarized the tasks completed to date and provided proposed revisions to the Plan, which included:</p> <ol style="list-style-type: none"> <li>1. Revising the message used to reach legislators to address issues raised in the opposition’s 2015 testimony.</li> <li>2. Updating the coal tar fact sheet based on the opposition’s testimony.</li> <li>3. Conducting proactive outreach to members of the Environment and Natural Resources Committee (e.g. inviting them to attend MEWEA’s legislative breakfast on March 3, 2016 and other events as applicable).</li> <li>4. Meet with Representative Daughtry to plan for the next session.</li> </ol> <p>ISWG and the York County MS4s received written notification of approval of the Plan revisions on April 8, 2016.</p>
Revise outreach message to address issues raised in the opposition’s testimony	complete	Testimony from the 2015 LD1208 hearing was reviewed. The talking points developed in 2015 were updated to address issues raised in the opposition testimony. Information relating to availability of preferred asphalt-based products and municipal support of the coal tar ban was added.
Update coal tar fact sheet	complete	Similar to the updated talking points, the coal tar and PAH fact sheet was reviewed for accuracy and updated to address issues raised in the opposition’s



		2015 testimony.
Conduct outreach to Environment and Natural Resources Committee	complete	Representatives from ISWG/CCSWCD and the York County MS4s invited legislators to attend MEWEA’s Legislative breakfast on March 3, 2016. Staff attended the breakfast and provided the coal tar fact sheet to interested parties. In addition, staff spoke directly with legislators about the impact coal tar-based sealers have on water resources.
Meet with Rep. Daughtry to plan for the 2016-17 legislative session	complete & ongoing	Representatives from ISWG/CCSWCD and the York County MS4s reached out to Rep. Daughtry to discuss plans to reintroduce the bill in the 2016/2017 legislative session. Rep. Daughtry confirmed that she is planning to reintroduce the bill and requested the assistance of ISWG and the York County MS4s to provide educational materials and outreach to the legislators. A meeting to discuss roles and responsibilities is planned for the fall of 2016.
Additional activities not identified in the Plan or status report	complete	ISWG/CCSWCD met with Mickey Kuhns, DEP Water Bureau Director, and other representatives from DEP to discuss various MS4-related topics. ISWG/CCSWCD sought Mr. Kuhns’ input regarding how to successfully achieve a ban on coal tar-based sealers. Mr. Kuhns suggested that successful efforts on the local level would help influence the legislature. He also suggested obtaining more local water quality data that indicates coal tar products and PAHs are impacting Maine’s water resources.

**Additional Outreach Activities not identified in the Permit or Outreach Plans**

**Maine Stormwater Conference**

ISWG served as a Coordinating Sponsor for the 2015 Maine Stormwater Conference, which is a biennial event that draws a large audience of municipal and state employees, consulting engineers, and stormwater professionals. The event educates these audiences about a variety of stormwater-related topics, including local, state, and federal regulations; innovative designs; resiliency; and emerging issues. Professional development hours were available to engineers, planners, code enforcement officers, waste water operators, drinking water operators, and lawyers who attended. The Conference drew more than 400 people from Maine and New England, including many representatives from the ISWG communities.

The post-Conference evaluation asked attendees if they learned anything that they will apply to future decisions. Some answers included the following:

- “Holistic stormwater approaches.”
- “We are beginning a process of revamping our City stormwater regulations. I wanted to get a sense of what others are doing. This conference will help us to kick off our efforts.”
- “This will help with Comprehensive Plan development to include taking into account conservation development.”
- “I will consider storm frequency and severity in future construction planning decisions.”

Planning for the 2017 (PY5) Conference is underway, and ISWG will once again serve as a coordinating sponsor.

**Winter Maintenance Outreach and Support**

ISWG/CCSWCD participated in the statewide Maine Salt Group to finalize a manual of winter maintenance best management practices (BMP) to reduce salt use in Maine. On behalf of ISWG, CCSWCD staff provided technical review of the BMP manual; assisted with the coordination of and presented at the Winter Maintenance Roundtable on September 10, 2015; and coordinated and attended two meetings with representatives from Maine and New Hampshire to discuss piloting New Hampshire’s Green SnowPro program and training in Maine. As a result of these efforts, ISWG is sponsoring a Green SnowPro training on September 22, 2016 (PY4) in Portland.



### **Maine Water Environment Association (MEWEA)**

ISWG/CCSWCD is serving on MEWEA's Stormwater Committee and assisting with the Committee's technical and outreach efforts. ISWG outreach materials are being used as a basis to educate MEWEA's membership about stormwater. In addition, ISWG/CCSWCD provided review of MEWEA's website and other materials to suggest how stormwater can be integrated into the Association's marketing and outreach materials.

Furthermore, the Stormwater Committee identified consistent construction inspection criteria as a priority. The Committee is looking to ISWG's Construction Committee as a resource for discussing compliance concerns; establishing consistent inspection criteria; and developing a comprehensive inspection form that can be used statewide. Feedback from the form (developed in PY3) following this construction season will be considered and incorporated into the form in PY4.

### **ISWG Youth Education**

Although not a permit requirement, ISWG provides funding to deliver clean water education to K-12 students in each municipality. CCSWCD staff provide the education on behalf of ISWG. Portland Water District provides information on their clean water lessons to supplement ISWG's efforts. A summary of students reached, contact hours, and topics covered is provided below.

#### **Overall:**

Total students: 4,975

Total contact hours: 13,107

#### **Primary educator contact information**

**CCSWCD:** Kat Munson, Education and Outreach Coordinator, Cumberland County Soil & Water Conservation District, kmunson@cumberlandswcd.org, 207-892-4700 x 102.

**Portland Water District (PWD):** Sarah Plummer, Environmental Education Coordinator, Portland Water District, splummer@pwd.org, 207-774-5961 x3324.

#### **Biddeford**

Total students: 200 (CCSWCD)

Total contact hours: 200 (CCSWCD)

Lesson topics: Watersheds, watershed models, water movement and branching patterns; transport of nonpoint source pollutants

Schools: Biddeford Middle School

#### **Cape Elizabeth**

Total students: 93 (CCSWCD: 64, PWD: 29)

Total contact hours: 250 (CCSWCD: 134, PWD: 116)

Lesson topics: Macroinvertebrate sampling and identification & bioassessment; water quality parameters and testing, pollution and wastewater; marine debris, nonpoint source pollution and prevention and ocean currents; watershed protection; drinking water and wastewater treatment

Schools: Cape Elizabeth High School

#### **Cumberland**

Total students: 167 (CCSWCD & PWD: 100, PWD: 67)

Total contact hours: 1,320 (CCSWCD & PWD 200, PWD: 1,120)

Lesson topics: TroutKids: brook trout habitat requirements and life cycle, water quality monitoring, trout releases at local water body, water quality testing, macroinvertebrate sampling, streamside assessment hike; HydroLogics program: water movement, nonpoint source pollution, water quality, best management practices, and stewardship

Schools: Greely Middle School



### **Falmouth**

Total students: 156 (CCSWCD)

Total contact hours: 156 (CCSWCD)

Lesson topics: Watersheds, watershed models, water movement and branching patterns; transport of nonpoint source pollutants; types of erosion; best management practices for erosion control

Schools: Falmouth Middle School

### **Freeport**

Total students: 183 (CCSWCD: 77, PWD: 106)

Total contact hours: 353 (CCSWCD: 77, PWD: 276)

Lesson topics: Amount of water in the world, conservation, and the water cycle; watersheds, watershed models, water movement and branching patterns; transport of nonpoint source pollutants; nonpoint source pollution, stormwater, storm drains, and cumulative impact; impervious/pervious surfaces, runoff, and best management practices; Southern Maine Children's Water Festival: Day-long field trip at USM with theme "Clean Water: It's all about ME!"

Schools: Mast Landing School

### **Gorham**

Total students: 350 (CCSWCD: 72, PWD: 278)

Total contact hours: 1,749 (CCSWCD: 144, PWD: 1,605)

Lesson topics: nonpoint source pollution; water quality; marine debris, nonpoint source pollution and prevention, and ocean currents; TroutKids: brook trout habitat requirements and life cycle, water quality monitoring, trout releases at local water body, water quality testing, macroinvertebrate sampling, streamside assessment hike; HydroLogics program: water movement, nonpoint source pollution, water quality, best management practices, and stewardship; home drinking water and wastewater distribution; human impact on water's quality and quantity

Schools: Gorham Middle School, Gorham Girl Scout Troops

### **Old Orchard Beach**

Total students: 54 (CCSWCD)

Total contact hours: 162 (CCSWCD)

Lesson topics: Amount of water in the world, conservation, and the water cycle; watersheds, watershed models, water movement and branching patterns; transport of nonpoint source pollutants; nonpoint source pollution, stormwater, storm drains and cumulative impact; impervious/pervious surfaces, runoff and best management practices

Schools: Loranger Middle School

### **Portland**

Total students: 2,518 (CCSWCD: 218, PWD: 2300)

Total contact hours: 4,219 (CCSWCD: 958, PWD: 3261)

Lesson topics: Watersheds, watershed models, water movement and branching patterns; transport of nonpoint source pollutants; types of erosion, best management practices for erosion control; nonpoint source pollution, stormwater, storm drains, and cumulative impact; reducing impact on waterways by changing lawn care practices (Youth YardScaping)<sup>6</sup>; Sebago to Sea Field Trip: Presumpscot River history and land use, water quality parameters and testing, bioassessment using macro-invertebrate sampling, river characteristic observations; HydroLogics program: water movement, nonpoint source pollution, water quality, best management practices, and stewardship; field trip with Audubon on the Presumpscot River: water quality sampling, plant & animal identification stations; Maine's brook trout: life cycle, adaptations and reliance on healthy water; branching patterns, water systems, watersheds; home drinking water and wastewater distribution; human impact on water's quality and quantity; Southern Maine Children's Water Festival: Day-long field trip at USM with theme "Clean Water: It's all about ME!"; "Sustainable Solutions" partnership event; PWD presentation covered Sebago Lake as a water source & challenges to its future; Portland Schools STEM Expo partnership event; PWD exhibit featured macroinvertebrates & biomonitoring

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<sup>6</sup> Additional funding for Youth YardScaping provided by the City of Portland



Schools: Lincoln Middle School, Deering High School, Longfellow Elementary School, Lyman Moore Middle School, Presumpscot Elementary School, Lyseth Elementary School, Portland Girl Scout Troop, King Middle School, Portland Public Schools

### **Saco**

Total students: 53 (CCSWCD)

Total contact hours: 61 (CCSWCD)

Lesson topics: Marine debris, nonpoint source pollution and prevention and ocean currents; watersheds; nonpoint source pollution; water quality parameters and testing, pollution and wastewater; macroinvertebrate sampling, identification & bioassessment

Schools: Thornton Academy

### **Scarborough**

Total students: 223 (CCSWCD)

Total contact hours: 223 (CCSWCD)

Lesson topics: Marine debris, nonpoint source pollution, and ocean currents<sup>7</sup>

Schools: Scarborough Middle School

### **South Portland**

Total students: 201 (CCSWCD: 56, PWD: 145)

Total contact hours: 814 (CCSWCD: 112, PWD: 702)

Lesson topics: Macroinvertebrate identification and mock sampling/bioassessment; water quality; runoff; impervious/pervious surfaces; nonpoint source pollution; erosion; best management practices; vegetated buffers; shorefront landscape design; TroutKids: brook trout habitat requirements and life cycle, water quality monitoring, trout releases at local water body, water quality testing, macroinvertebrate sampling, streamside assessment hike; HydroLogics program: water movement, nonpoint source pollution, water quality, best management practices, and stewardship

Schools: Small Elementary School, Mahoney Middle School

### **Westbrook**

Total students: 180 (CCSWCD)

Total contact hours: 900 (CCSWCD)

Lesson topics: Watershed ecology: Students evaluated the health of the Presumpscot River during a field trip to two sites on the River, one rural and one urban; water quality parameters and testing; bioassessment using macro-invertebrate sampling; river characteristic observations; compared data from the two sites to develop their ideas about human impact on the river ecosystem.<sup>8</sup> PWD educators provided extra staffing support for this field trip.

Schools: Westbrook High School

### **Windham**

Total students: 352 (CCSWCD: 66, PWD: 286)

Total contact hours: 2,326 (CCSWCD: 484, PWD: 1842)

Lesson topics: Watersheds, watershed models, water movement and branching patterns; transport of nonpoint source pollutants; stormwater, storm drains, and cumulative impact; impervious/pervious surfaces, runoff, and best management practices; water quality parameters and testing, bioassessment using macro-invertebrate sampling, river characteristic observations; Service Learning<sup>9</sup>: Nonpoint source pollution research, pollution prevention and solutions for Windham Middle School Campus, community education, water quality parameters and testing; TroutKids: brook trout habitat requirements and life cycle, water quality monitoring, trout releases at local water body, water quality testing, macroinvertebrate sampling, streamside assessment hike; HydroLogics program: water movement, nonpoint source pollution, water quality, best management practices, and stewardship; Southern Maine Children's Water

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<sup>7</sup> Additional funding for ocean currents lessons provided by Scarborough School Department

<sup>8</sup> Additional funding for student field trip provided by the Westbrook Environmental Improvement Corporation

<sup>9</sup> Additional funding for service learning was provided by the Portland Water District



Festival: Day-long field trip at USM with theme "Clean Water: It's all about ME!"; Converting "Discovering Water" book to an iBook; focus on technology and HydroLogics curriculum/water-related topics in the book.  
Schools: Manchester Elementary School, Windham High School, Windham Middle School

**Yarmouth**

Total students: 245 (CCSWCD)

Total contact hours: 374 (CCSWCD)

Lesson topics: Water pollution, nonpoint source pollution, soil as pollutant; impervious/pervious surfaces, runoff, and best management practices; vegetated buffers; shorefront landscape design; groundwater model; groundwater resources and pollution prevention<sup>10</sup>

Schools: Yarmouth Elementary School, Harrison Middle School

**MCM2: Public Involvement and Participation**

**Urban Runoff & Green Neighbor Family Fest**

2016 marked the fifth year ISWG supported, coordinated, promoted, and participated in the Urban Runoff and Green Neighbor Family Fest, a day-long community event that promotes clean water and raises awareness of water pollution. In addition to raising awareness, funds raised from the Urban Runoff and Green Neighbor Family Fest support ISWG's in-school youth education program. The race and festival, held on April 23, 2016, served as the Public Involvement and Participation event for all ISWG communities. Each community's participants are summarized in the table below.

By all accounts, the event continues to be a huge success. Over 700 runners and walkers registered for the race, and many local businesses supported the race through sponsorships, in-kind donations, and employee participation as race participants and volunteers. Local media outlets advertised the events, including the donation of radio advertisement during the months of March and April by 98.9 WCLZ. Channel 8 WMTW developed and ran a 20-second ad promoting the events throughout the month of April, and they attended the race and festival to provide news coverage of the events, including 6 live interviews on the morning of April 23<sup>rd</sup>, 2016. Social media, paid online advertising, posters, and direct mail and email were also used to promote the race and included a clean water message. Additional clean water messages were included on the event website, social media, eblasts, and other marketing tools that were sent to all registered participants, sponsors, and partners.

The *Green Neighbor Family Fest* was held after the race at Deering High School. The event ran for three hours and was attended by approximately 900 people. Scheduled events included the awards ceremony and live music. A total of 29 exhibits were set up by local nonprofit, governmental organizations, and businesses to provide hands-on, educational activities for children and families. These activities included a marine touch tank, making mini ecosystems, water quality experiments, and more. Children also took part in face painting, an obstacle course moon bounce, and water related prize giveaways.

Plans are underway to host the sixth annual *Urban Runoff* 5K and *Green Neighbor Family Fest* on Saturday, April 22, 2017.

**Summary of ISWG Municipal Involvement in the 2016 Urban Runoff & Green Neighbor Family Fest**

	Race Participants	Municipal Volunteers	Municipal Team (number of members)	Posters Provided for Distribution	Additional Contribution
Biddeford	9	1		25	
Cape Elizabeth	11	1		16	
Cumberland	29			19	

<sup>10</sup> Additional funding for groundwater lessons provided by the Yarmouth Water District



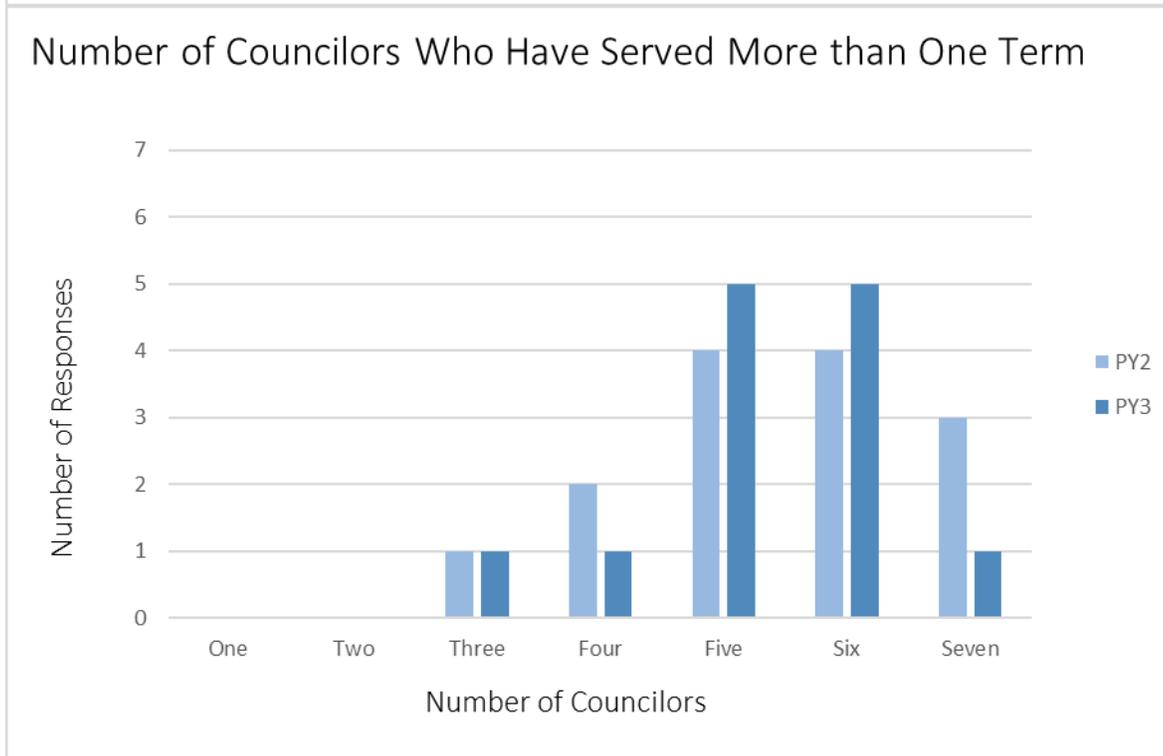
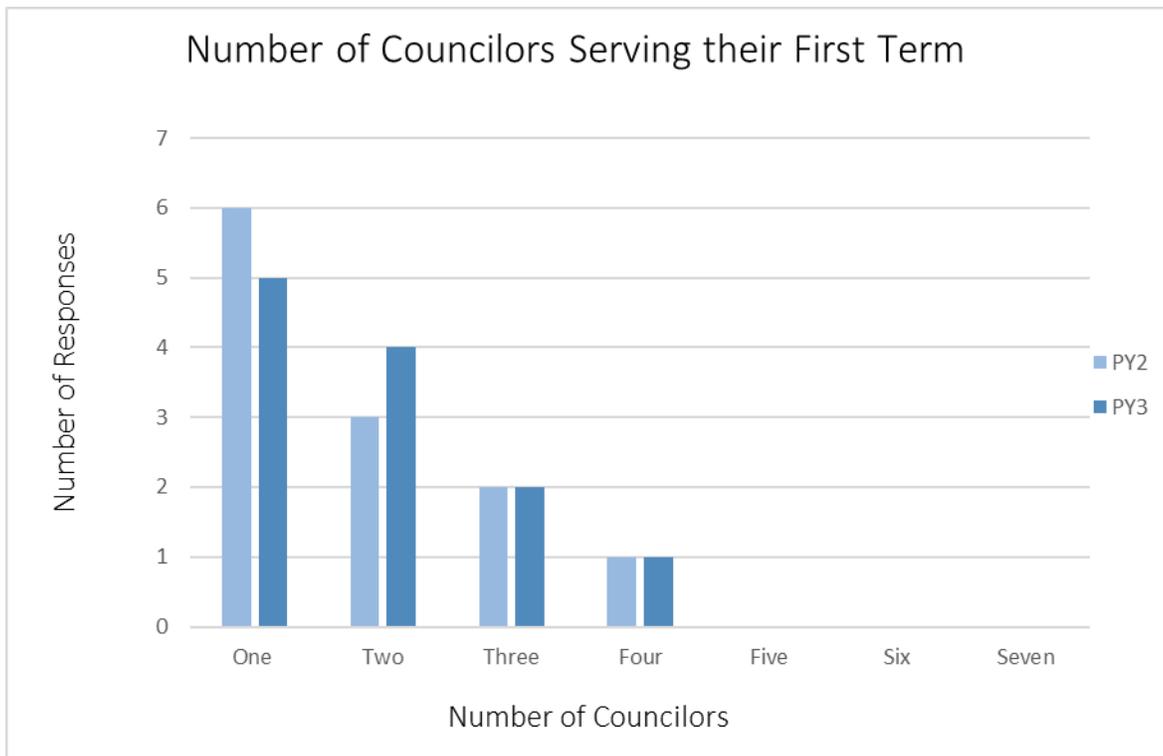
ISWG Permit Year 3 (2015-2016) Summary of Minimum Control Measures 1 & 2

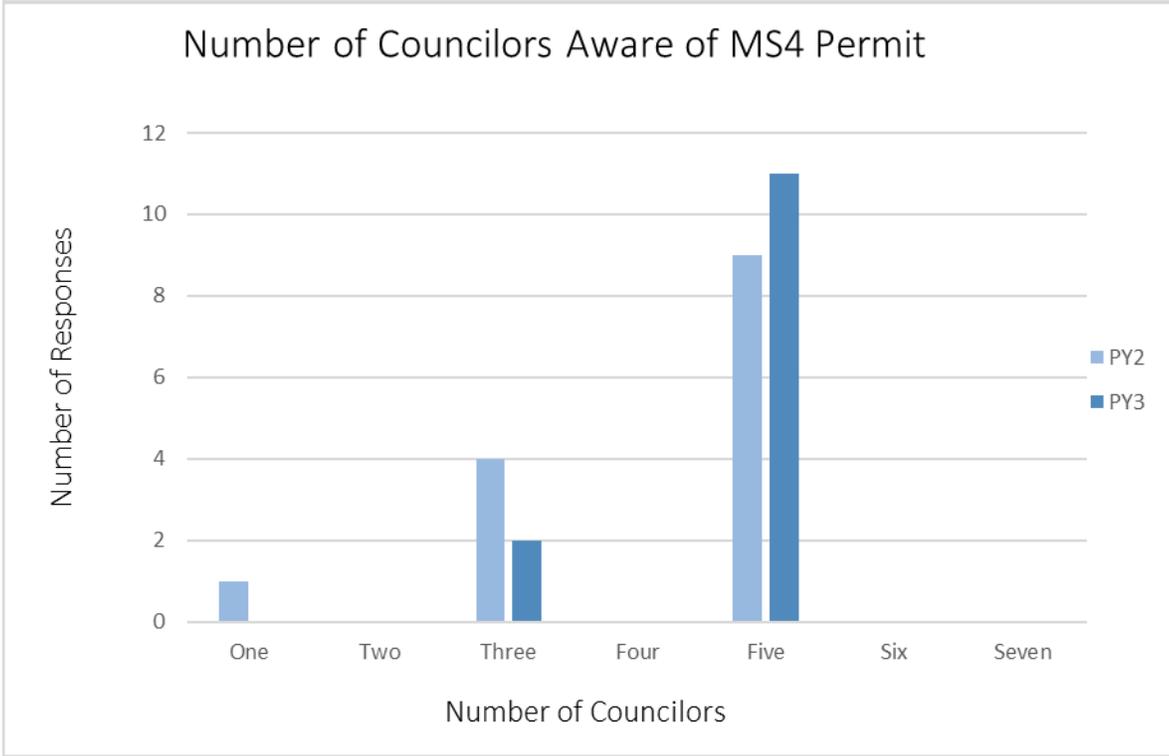
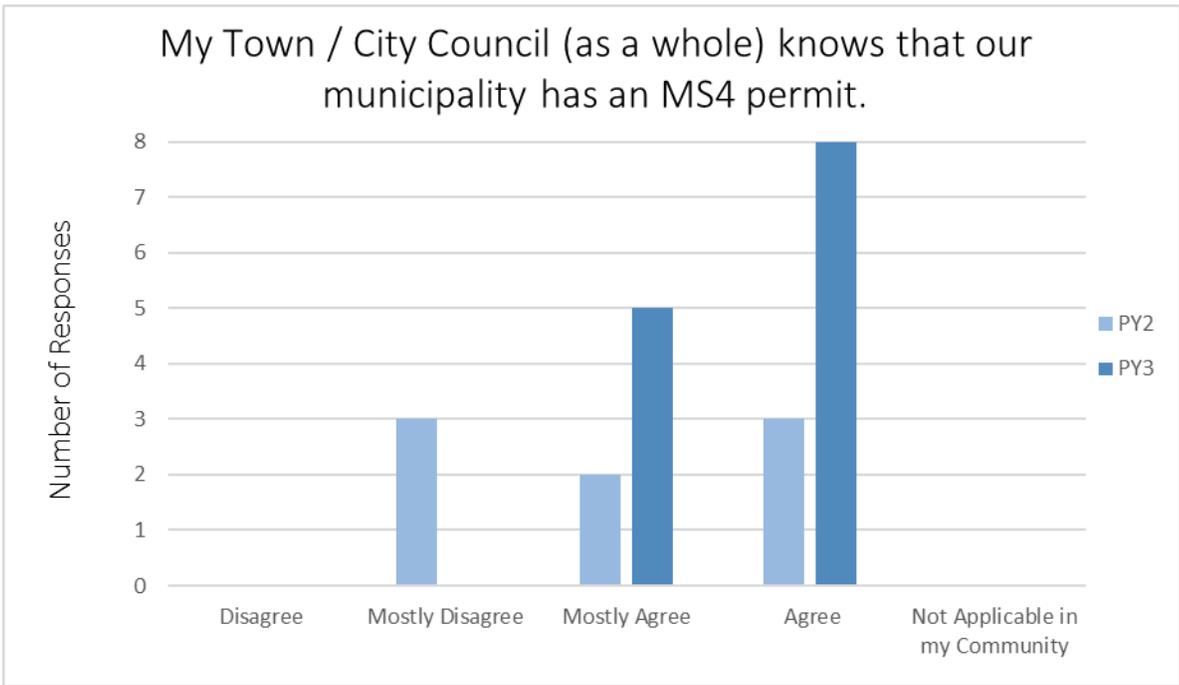
Falmouth	38		5	21	
Freeport	3			25	
Gorham	26	2		19	
Old Orchard Beach	1			21	
Portland	202	13	9	50	Permit fees waived; display at festival
Saco	19	1		28	
Scarborough	41	6	19	24	
South Portland	38	1		28	\$500 Splash Sponsorship
Westbrook	63	2	18	22	
Windham	20	2		23	
Yarmouth	4	2		19	



### APPENDIX A-2: Permit Year 3 (PY3) Summary Municipal Survey Responses

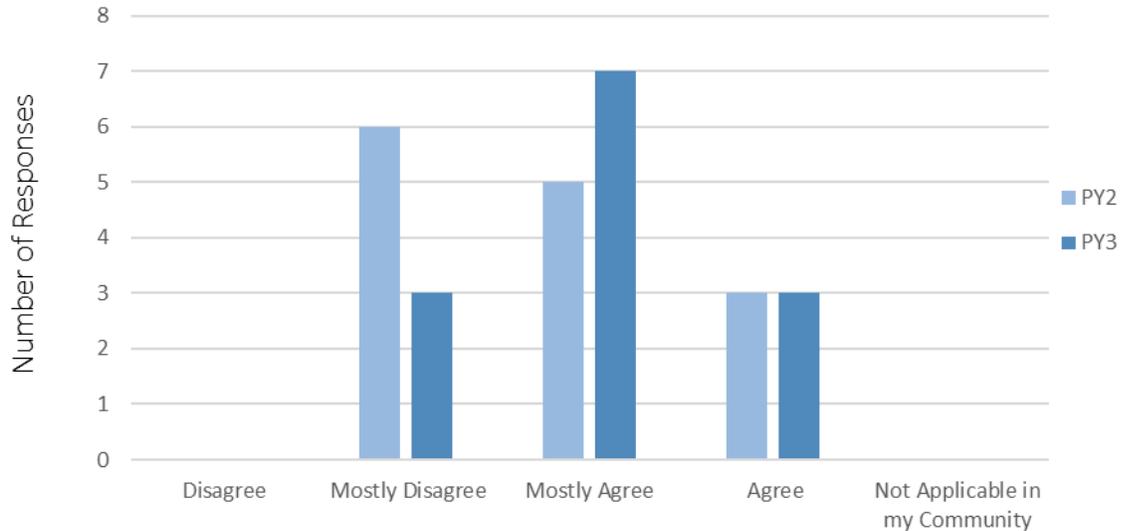
The following graphs summarize the responses to the annual municipal survey that was conducted in the first quarter of PY3. This survey is used to gauge municipal councilors' awareness of their municipal stormwater program.



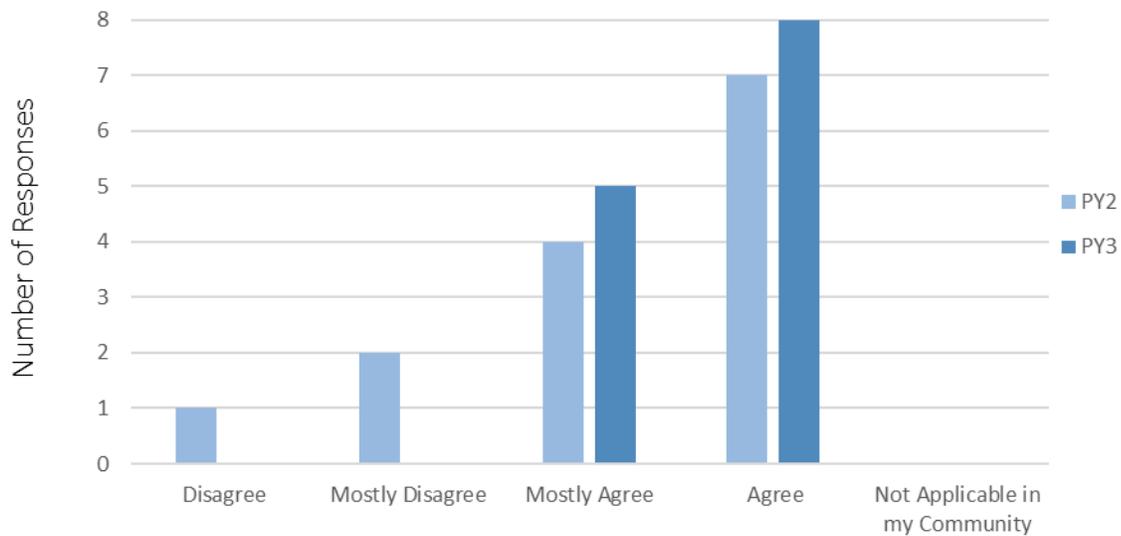


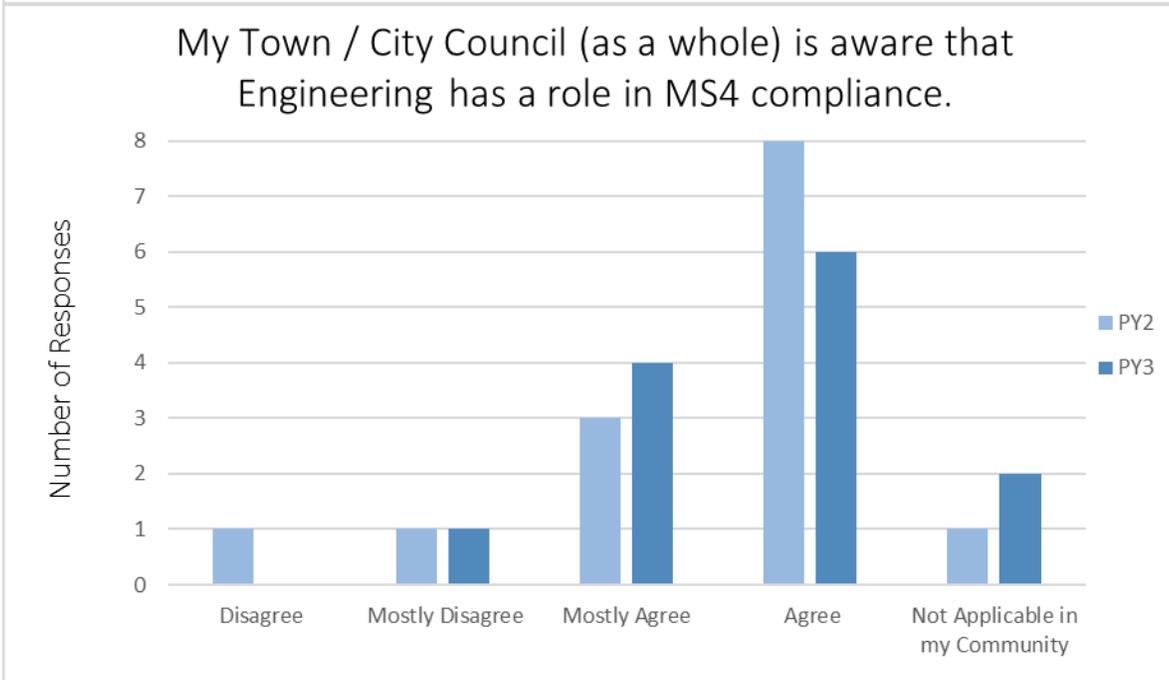
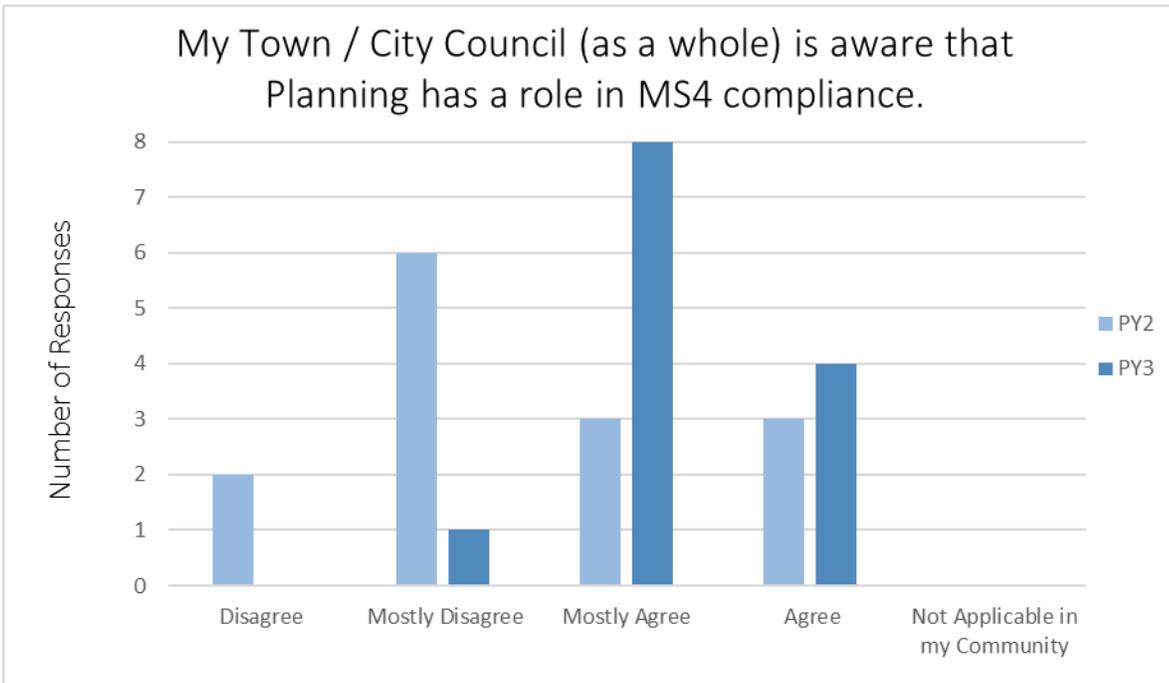


### My Town / City Council (as a whole) is aware of the MS4 permit requirements.



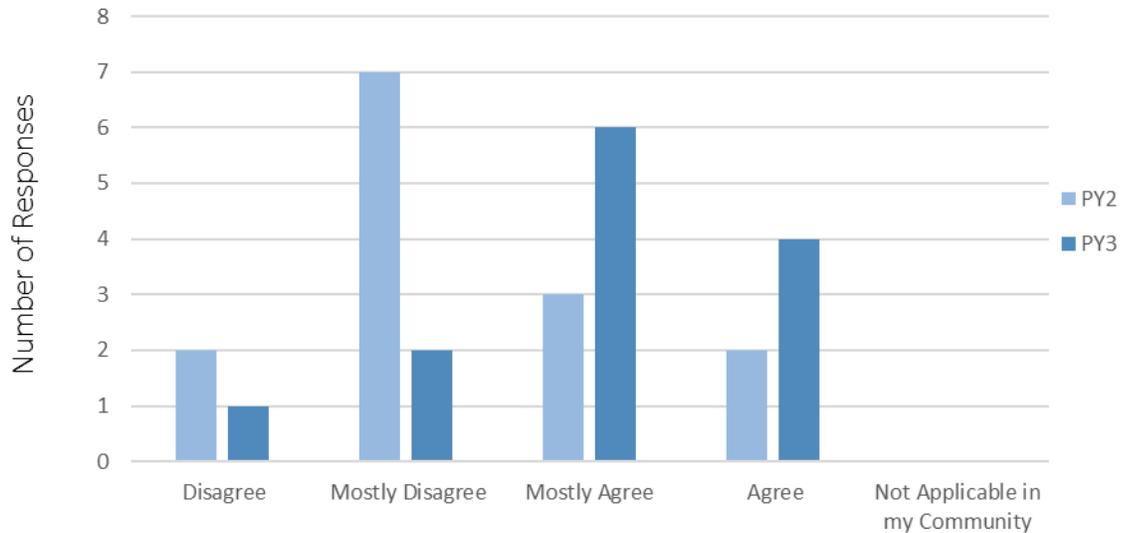
### My Town / City Council (as a whole) is aware that Public Works / Public Services has a role in MS4 compliance.



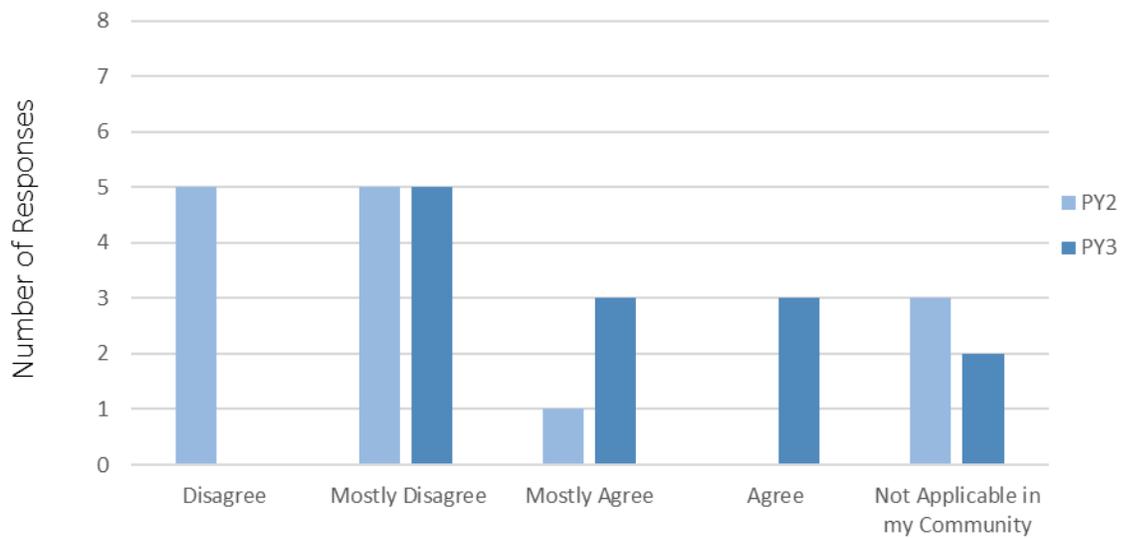




### My Town / City Council (as a whole) is aware that Code Enforcement has a role in MS4 compliance.

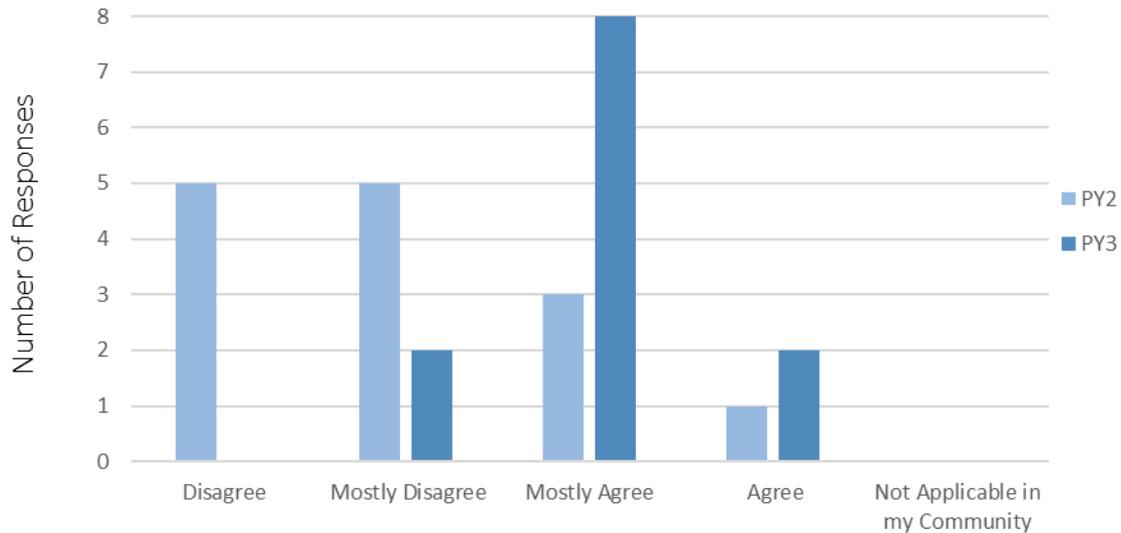


### My Town / City Council (as a whole) is aware that Parks & Rec / Community Services has a role in MS4 compliance.

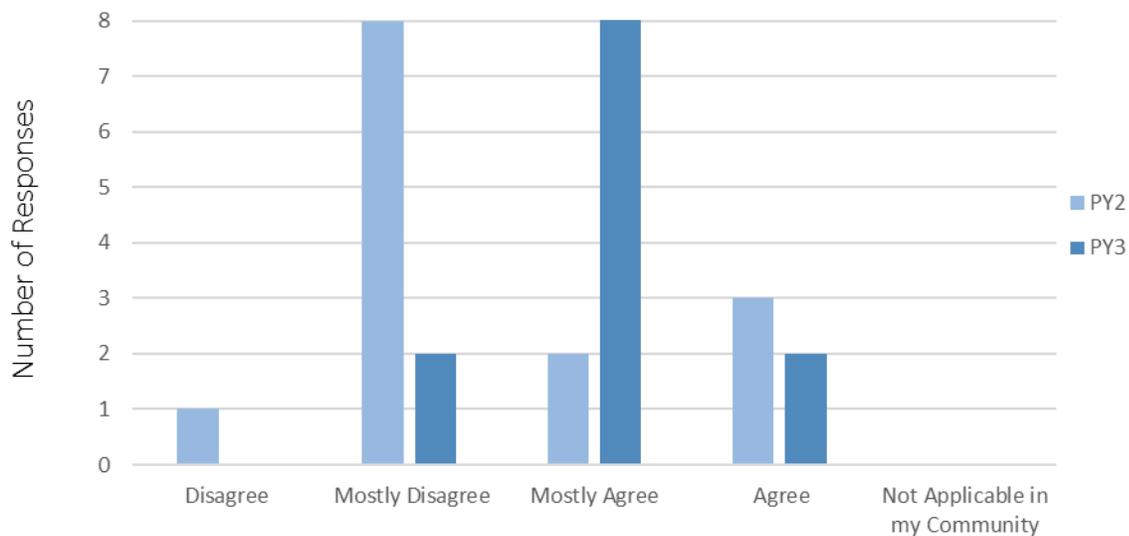




### My Town / City Council (as a whole) is aware that Public Safety has a role in MS4 compliance.



### My Town / City Council (as a whole) is aware of the consequences of non-compliance with the MS4 permit.



# FATS, OILS, AND GREASE PROGRAM



Fats, Oils and Grease (FOG) can block sewer pipes causing sewage back ups into sinks, toilets, basements and can overflow to Casco Bay.

## Common Sources:

- \* Meat Fats
- \* Dairy Products
- \* Sauces
- \* Cooking Oil
- \* Salad Dressing



# KEEP FOG OUT OF YOUR PIPES!

- ⇒ WIPE FOOD SCRAPS INTO TRASH
- ⇒ USE DRAIN SCREENS
- ⇒ POUR COOKING GREASE INTO DISPOSABLE CONTAINERS, THEN TRASH IT
- ⇒ STOP OR MINIMIZE USE OF GARBAGE DISPOSAL
- ⇒ WIPE DISHES & COOKWARE INTO TRASH BEFORE WASHING

## TO AVOID THIS:



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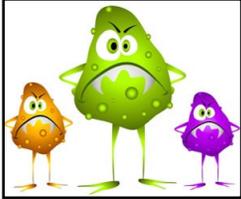
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## TO AVOID THIS:



# SCOOP THE POOP



Pet waste contains harmful bacteria and excess nutrients that are unhealthy for people, water, and wildlife.



## THROW PET WASTE IN THE TRASH!

Never into **catch basins** or **storm drains!**



Keep your neighborhood and our water clean by picking up after your pet!



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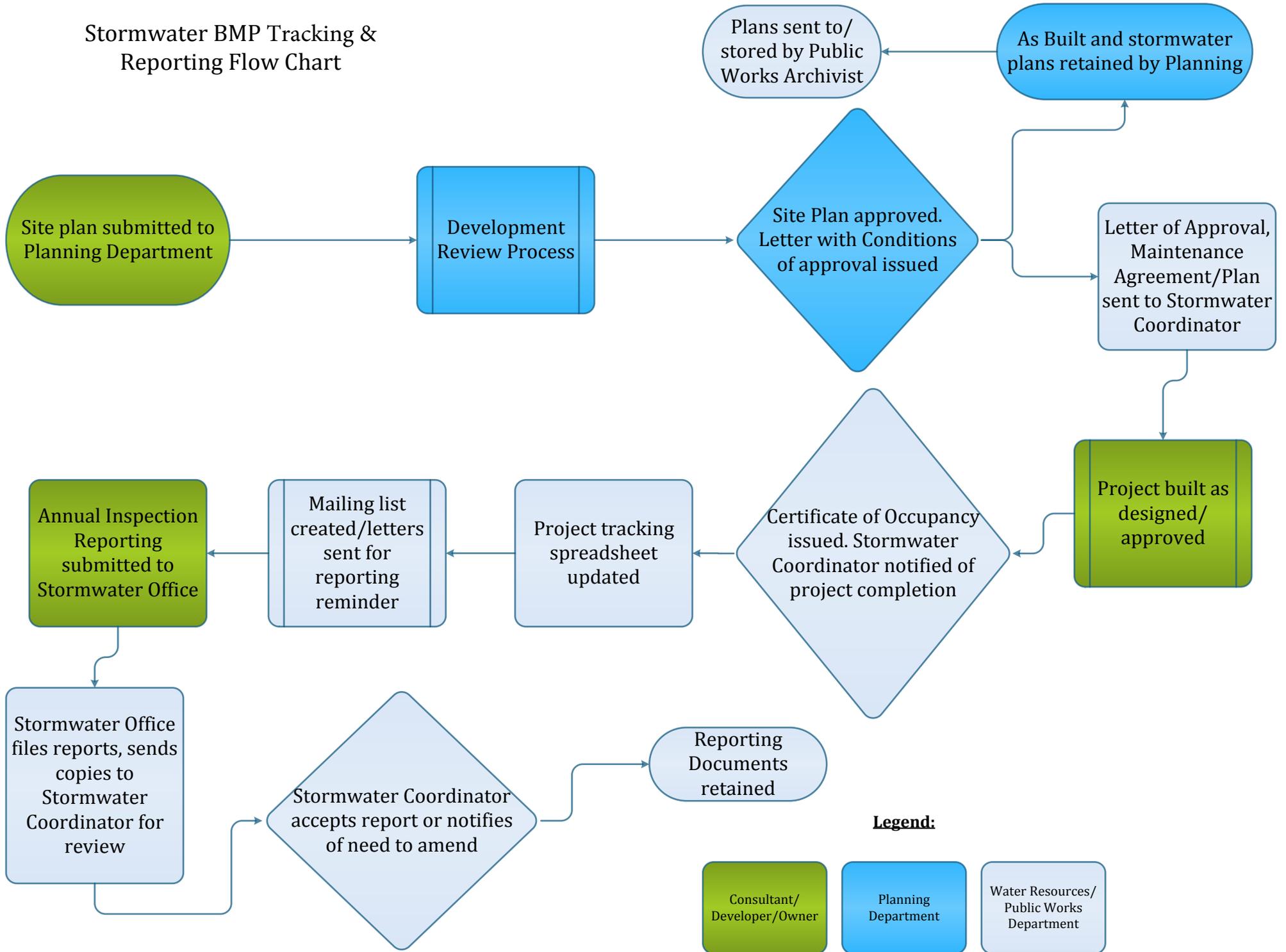
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Keep your neighborhood and our water clean by picking up after your pet!



# Stormwater BMP Tracking & Reporting Flow Chart



Stormwater BMP Tracking & Reporting Flow Chart - Outline detailing process for annual reporting of stormwater BMP inspections:

- 1) Planning Department issues approval letters for site plans, which include conditions of approval referencing the Stormwater Ordinance (Chapter 32), the stormwater system inspection & maintenance plan and maintenance agreement, where applicable. Chapter 32, Article III describes the annual maintenance and reporting requirements for all post-construction stormwater Best Management Practices (BMPs).
- 2) Planning Department & DPW Archivist retains stormwater management and as built plans, showing the location and type of BMP approved/installed.
- 3) Planning Department sends copies of approval letters to the Stormwater Program Coordinator and, after completion of project, notification of Certificate of Occupancy.
- 4) Stormwater Program Coordinator/Water Resources Division staff uses this information to update a tracking spreadsheet.
- 5) Spreadsheet is used by Water Resources Division staff to generate reminder letters to send to landowners with post-construction stormwater BMPs requiring annual inspections and reporting
- 6) Submitted inspection reports are retained and filed by Water Resources Division. Stormwater Program Coordinator reviews submitted applications for completeness based on available records.
- 7) Stormwater Program Coordinator may contact listed engineer/consultant or property owner with questions as needed.



Cumberland County Soil & Water  
Conservation District

**TO:** Doug Roncarati, City of Portland Stormwater Coordinator  
**CC:** Nancy Gallinaro, City of Portland Water Resources Manager  
Jodie Keene, CCSWCD Municipal Outreach Coordinator  
**FROM:** Robyn Saunders, CCSWCD Director  
**DATE:** September 6, 2016  
**RE:** Summary of Technical Assistance and Recommendations  
Municipal Separate Storm Sewer System (MS4) Permit

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CCSWCD appreciates the opportunity to assist the City of Portland (City) in implementing the City's stormwater program, established to comply with the Maine National Pollution Discharge Elimination System (MEPDES) MS4 Permit.

## BACKGROUND

CCSWCD has been providing assistance with Minimum Control Measure (MCM) 6 – Good Housekeeping and Pollution Prevention (GH/P2) that began in Permit Year (PY) 2. A summary of those PY2 efforts and recommendations for PY3 were provided in a summary memo (dated 6/30/15) included as **Attachment A**. Subsequently, a follow-up scope of work was developed for PY3, which is included as **Attachment B**.

## TASK SUMMARY

The assistance that CCSWCD provided to the City of Portland in PY3 (included in this memo) was based on the following:

- A revised scope of work (dated 7/14/15) with the Department of Public Works (DPW), which is included as **Attachment B**;
- Feedback from City Department Heads on the findings and recommendations in the PY2 reports included in **Attachment A**; and
- A scope of work (dated 2/16/16) provided to the Facilities Department included as **Attachment C**.

## DPW SCOPE OF WORK & PROGRESS

### *TASK 1: REVIEW FINDINGS*

**GOAL:** *Define and (where necessary) limit or increase the role and responsibility of DPW in the MS4 Program since all Departments share responsibility in implementing the MS4 requirements.*

CCSWCD met with the City on 1/8/16 to review and confirm the prioritized recommendations and next steps, which included outreach to numerous City Departments. A copy of the agenda from this kickoff meeting is included as **Attachment D**. To ensure buy in from City Department Heads on their specific MS4

requirements, a meeting with the new City Manager was scheduled and attended by CCSWCD on 1/28/16. At this meeting, the new City Manager and other City Leaders were briefed on the importance of Clean Water Act permit requirements, compliance and consistent messaging to Department Heads at the upcoming Interdepartmental Meeting.

#### *TASK 2: RECONVENE INTERDEPARTMENTAL STAKEHOLDERS GROUP*

***GOAL: Continue to raise awareness of the MS4 permit among the numerous City Departments and Department Heads.***

Documentation from the Interdepartmental Meeting held on 2/11/16 is included as **Attachment E**. As seen in the agenda, this meeting was used to remind City Department Heads of their MS4 roles and responsibilities by reviewing the MS4 Fact Sheet that was developed in PY2. Additionally, the new City Manager opened the meeting by delivering a directive to all City staff to consider MS4 program compliance a priority in their regular routine.

CCSWCD collected contact information from City Department Heads to begin scheduling follow up meetings to:

- Review the Department-specific findings and recommendations from PY2 (see table at the end of **Attachment A**);
- Update the City's Operations & Maintenance (O&M) Plan Matrix included in **Attachment F**; and
- Collect input from each Department to assist in the development of a City-wide MS4 policy.

#### *TASK 3: DEVELOP MS4 POLICY*

***GOAL: Formalize the City-wide roles and responsibilities for the MS4 program, specifically detailing what DPW is and is not responsible for implementing, beginning with spill response procedures and clean up.***

CCSWCD focused outreach on the three Departments that are responsible for maintaining the most municipal infrastructure:

- **Public Works:** CCSWCD efforts to clarify roles and responsibilities within DPW were twofold:
  1. **Winter Maintenance Outreach** included a meeting with DPW leadership to discuss winter maintenance best management practices (BMPs) utilized by City crews. With the help of Pete Coughlan from MaineDOT's Local Roads Center, information from meetings was used to develop a customized training for DPW crews and supervisors, which occurred on 11/2/15. This training highlighted methods for minimizing the amount of sand and salt applied during winter maintenance activities. CCSWCD provided an introductory presentation included as **Attachment G**.
  2. **SWPPP/SPCC Training** was provided by CCSWCD to DPW fleet mechanics and supervisors on 6/21/16. The training presentation is included as **Attachment H**, along with:



- The blank sign-in sheet that summarizes the topics covered<sup>1</sup> in the training session (NOTE: the original with all attendees' signatures was left for your files); and
  - The 2-page exam that all attendees (approximately 20) completed and passed.
- **School Department:** CCSWCD efforts to clarify roles responsibilities with the School Department primarily consisted of communications and meetings with Doug Sherwood.
    1. **After the Interdepartmental Meeting on 2/11/16,** CCSWCD spoke at length with Doug Sherwood about the need to (1) train custodial staff on the O&M Plan; (2) review the list of school facilities; and (3) update the O&M Plan to reflect School Department roles and responsibilities. Although tentative dates for training were discussed<sup>2</sup>, a follow up meeting was scheduled to discuss the list of School properties relative to the O&M Plan.
    2. **On 3/11/16,** CCSWCD met with Doug Sherwood and Craig Worth, the Executive Director of Operations for the School Department. Both the list of school facilities and the O&M Plan were reviewed in tandem, along with the School-specific findings from the PY2 work. This helped CCSWCD to (1) update the O&M Plan Matrix to reflect School Department roles & responsibilities; and (2) narrow the City-owned facilities that may be subject to SPCC and other specific requirements.
  - **Recreation & Facilities Management:** As part of this scope of work, CCSWCD held one initial follow up meeting with Facilities Management Leadership (Kathy Alves and Tim Fish) on 2/11/16. The goal of this meeting, which occurred before the morning of the Interdepartmental Meeting, was to review the findings and recommendations from the PY2 summary. As a result of this meeting, CCSWCD was provided with information to update the list of City-owned facilities and the O&M Plan Matrix to reflect the roles and responsibilities of the Rec & Facilities Management Department. A significant amount of additional work was completed under a separate scope of work with Rec & Facilities Management, as described below.

## REC&FACILITIES SCOPE OF WORK & PROGRESS

### TASK 1: CONDUCT TRAINING

**GOAL:** *Provide customized training to (1) focus on specific O&M Plan elements that apply to Rec & Facilities staff; and (2) satisfy MS4 permit requirements.*

Training conducted on 3/8/16 reviewed portions of the O&M Plan that applied to Facilities staff and supervisors. Documentation of this training is included as **Attachment I**. CCSWCD has a standing agreement with Facilities Management to provide this training again in PY4 under a separate scope of work and

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<sup>1</sup> During MS4 audits, DEP has been requiring that an informative agenda be attached and/or included with the annual training records that clearly outlines the topics covered. CCSWCD recommends that this sign in sheet be maintained with this training record and that the City provide this for all additional training that is subject to MS4 Program review, inspection or audit.

<sup>2</sup> It was determined that the optimal time to conduct annual training for all custodial staff at the School Department would be during a school break, such as February vacation or April vacation.



purchase order, which will also include an annual evaluation of the O&M Plan relative to Facilities Management.

*TASK 2: UPDATE O&M PLAN*

***GOAL: Reflect the roles and responsibilities of Facilities staff and supervisors.***

CCSWCD met with Facilities Management Leadership once more in PY3 to follow up on questions from training, specifically:

- O&M Plan topics, like spill response procedures and notification to ensure consistent messages for staff City-wide (i.e., “See it, Stop it, Say something” stickers for all fleet vehicles); and
- Designees from Facilities Management for the City’s Stormwater Team (i.e., Kathy Alves, Tim Fish, Chuck Wallace) who would meet with other Department Heads and/or City Leadership regularly (e.g., quarterly) to review and discuss spill response procedures.

CCSWCD applauds the City’s efforts to make enhancements in implementing the MS4 Program. The City maintains a complex network of municipal infrastructure and we hope that CCSWCD’s efforts continue to provide effective support with MS4 permit compliance.

Thanks again for the opportunity to have Cumberland County Soil & Water Conservation District support the City of Portland with MS4 support and technical assistance. We look forward to continued collaboration and are always happy to assist.

Sincerely,  
CUMBERLAND COUNTY SOIL & WATER CONSERVATION DISTRICT



Robyn Saunders  
Program Director



**APPENDIX B**  
**Urban Impaired Stream Watersheds**

## APPENDIX B

### URBAN IMPAIRED STREAM WATERSHEDS

Portland has four identified Urban Impaired Stream watersheds as defined by Appendix B of the General Permit for Small Municipal Separate Storm Sewer Systems issued in July 2013. During this permit cycle, the City of Portland will continue to focus on the Capisic Brook watershed as its priority watershed. The City has developed a Compensation Fee Utilization Plan for each of its urban impaired watersheds which will allow it to implement structural stormwater retrofits as fees are collected. Currently, the City obligates all new development (beyond single family residential) to meet state stormwater general standards and urban impaired stream standards. These requirements provide additional stormwater controls in all Portland Urban Impaired Stream watersheds.

*Actions Completed Permit Year 1: The City continues to implement Appendix B as stated above. [Post Note: A summary report of public education and outreach efforts completed in the Capisic Brook watershed as part of the Greener Neighborhoods Cleaner Streams program for 2013-2014 as well as the Green Neighbor Guide (artistic watershed map) and educational sign that were created as part of the program are included in Appendix A-1].*

*Actions Completed Permit Year 2: The City continues to implement Appendix B as stated above. A small amount of money has been collected in each of the Urban Impaired Stream watersheds in the City's Compensation Fee Utilization Plan (CFUP) program (i.e.: Capisic Brook, Fall Brook and Nason's Brook). The City defers to the Long Creek Watershed Management District for projects constructed in the Long Creek watershed. To date, no stormwater retrofits identified in the CFUPs have been completed because the Urban Impaired Stream Standard has not generated enough revenue to implement any of the identified projects.*

*A summary report of public education and outreach efforts completed in the Capisic Brook watershed, as part of the Greener Neighborhoods Cleaner Streams program, is included in this appendix.*

*The City and the Cumberland County Soil and Water Conservation District (CCSWCD) held a Capisic Brook Watershed stakeholder meeting to talk with businesses about the new Greener Businesses Cleaner Streams program on 5/6/15. The program is a new commercial/industrial pollution prevention program being developed for the City by CCSWCD, using a State-funded Section 319 grant. This program, which was recommended in the watershed management plan, aims to raise awareness of the environmental and regulatory stormwater issues in the watershed and to promote voluntary pollution prevention by businesses. Businesses were invited via direct mailing and telephone. There were over 30 attendees at this meeting.*

*Actions Completed Permit Year 3: The City continued to implement Appendix B as stated above.*

*In addition, Portland continued to plan and make investments in its priority watershed, the*

*Capisic Brook watershed. On 8/3/2015 the City Council voted, unanimously, to purchase 42.5 AC of land in the headwaters of the watershed including wetland habitat and an important section of the main stem of the brook. This property north of Warren Avenue had been under development pressure off and on for more than 10 years. The multi-year effort to purchase this land for water resources protection and enhancement and recreational open space was completed in November 2015. Besides protecting a large area of interconnected wetlands, the acquisition provided the opportunity to explore whether or not the health of the stream could be improved through a stormwater treatment and volume management project in this location. The watershed management plan calls for an in-line gravel wetland system, but the City will be exploring options ranging from simple preservation of the stream channel and flood plain to installation of a stormwater management system.*

*Lastly, the watershed management plan recommended construction of an interactive pair of stormwater management systems to improve water quality in Capisic Brook, one at Sagamore Village and the other at the Hall Elementary School. Portland's Stormwater Engineer and Stormwater Program Coordinator worked with the engineering firm hired by the School Department to design the stormwater management system for a new elementary school to be constructed on the site of the existing school. The initial plan was to determine if we could partner to build one system that would meet the needs of both projects but, unfortunately, a variety of engineering issues precluded this possibility. Instead, the City will explore several options for green infrastructure retrofits at Sagamore Village and the possibility of installing a second, subsurface stormwater management system elsewhere on the school property upstream of the existing stormwater outfall.*

## Greener Neighborhoods Cleaner Streams 2014-2015 Summary Report (PY2)

Prepared for the City of Portland | July 2015

The Cumberland County Soil & Water Conservation District (CCSWCD) continued to coordinate and implement the Greener Neighborhoods Cleaner Streams (GNCS) program on behalf of the City of Portland in Fiscal Year 2015 (July 1, 2014 – June 30, 2015). Funding provided by the City of Portland for the GNCS program provided cash match to the Capisic Brook Implementation grant, funded by the Maine Department of Environmental Protection.

The goal of the GNCS program is to educate residents of the Capisic Brook watershed about their role in cleaning up the Brook. The program's current focus is changing residents' lawn care behavior. This report summarizes the work completed during 2014-2015.

### Green Neighbor Family Fest

CCSWCD coordinated the fourth annual Green Neighbor Family Fest, which took place on April 25, 2015. The one-day event was held at Deering High School following the Urban Runoff 5k. It served as a platform to raise awareness of GNCS, as well as an opportunity educate the public about their role in clean water and a healthy environment.

At the Fest, activities related to conserving local resources were provided by the following organizations:

- Breakwater School
- City of Portland
- Coast Encounters
- Friends of Casco Bay
- Garbage to Gardens
- IDEXX Laboratories
- Kathadin Analytical Services
- Maine Energy Education Program
- Maine Green Power
- Maine Water Environment Association
- Nason's Corner Park
- Party Palooga
- Project Learning Tree
- Rosemont Neighborhood Association
- Sappi Paper
- Sunrise Guide
- Spiral Tree Yoga & Wellness Studio
- TREE Center
- Whole Foods Market

Marketing efforts for the Green Neighbor Family Fest included a postcard mailing about the event to all watershed residents, email notifications, posters distributed throughout local municipalities, and information posted on social media. Other media advertising included radio ads on 98.9 WCLZ and news coverage on WMTW Channel 8 prior to the event.

Approximately 700 participants attended the event on a rolling basis.

### Residential Workshops & Events

Outreach programs included three YardScaping healthy lawn care educational events (two were required under the approved scope of work).

1. CCSWCD staff provided healthy lawn care information at Rosemont Market's Harvest on the Hood event on September 20<sup>th</sup>. CCSWCD spoke with approximately 40 Rosemont neighborhood residents and other community members about the program and healthy lawn care.

2. The second event was held at Longfellow Elementary School on May 30th. The fifth graders at Longfellow spent the spring researching healthy lawn care practices (see the Youth Education section for more information). These students then presented their research and made lawn care recommendations to their community on May 30th at the Longfellow Spring Fair. Approximately 80 individuals from the community attended this event.
3. The third YardScaping educational event was held at Brentwood Community Garden on June 13th. Members of the garden and others attended this event and received catered advice about healthy lawn care. Four individuals took the Green Neighbor Pledge and received the Green Neighbor lawn sign. Two individuals purchased compost tea kits for their lawn and gardens.

### Neighborhood Canvassing & Technical Assistance

CCSWCD conducted targeted outreach in Rosemont and Nason's Corner. These neighborhoods were chosen based on previous research about lawn care practices. Households in both neighborhoods received information about GNCS and healthy lawn care.

1. The first canvassing event on May 1st was carried out with the help of Cheverus High School students. Door hangers about healthy lawn care were hung at each residence within these neighborhoods. Storm drains in each neighborhood were stenciled with clean water awareness messages during this canvassing event. Approximately 60 storm drains were stenciled.
2. The second canvassing events took place on June 17th in Rosemont and on June 24th in Nason's Corner. During these events, the Green Neighbor Guide was handed directly to individuals who were outside their homes. This direct distribution of information led to one-on-one conversations about how lawns are maintained and often resulted in technical assistance provided to residents.

### Trash Bag Rebates

CCSWCD promoted the availability of trash bag rebates from the City through direct mail and social media. Zero rebates from residents were requested this year. CCSWCD recommends discontinuing this element of the program due to low interest over the past 2 years.

### Youth Education

CCSWCD worked with the three fifth grade teachers at Longfellow Elementary School to implement a Youth YardScaping program. Students learned about stormwater through an in-class lesson and a walking field trip to Capisic Pond Park. After the introduction, the students were divided into groups and given YardScaping topics to research. Overall, CCSWCD provided 52 students with 23 hours of hands-on clean water education.

At the end of the Youth YardScaping program, students shared their learning with parents and community members at the Longfellow Spring Fair. More than 80 people attended the Fair and learned about YardScaping. Attendees were provided with a brief summary of YardScaping before they visited the students' displays and presentations. Feedback from the community was very positive, and many requested additional lawn care information. In future years, CCSWCD will provide complete YardScaping information packets to interested community members at the event.

*"I thought the framework of the program was awesome! Very hands-on and kid friendly! Hoping to continue this program in the future."*

- Richard Johnson,  
5<sup>th</sup> grade teacher at Longfellow  
Elementary School



The teachers that participated in Youth YardScaping were extremely happy with the program. They felt the lessons were easy to incorporate into their curriculum and did an excellent job introducing new topics and reinforcing topics the students learned earlier in the year. The teachers wish to implement Youth YardScaping again in 2016.

### Mailings

Three mailings were sent to all households in the Capisic Brook watershed. Addressed were obtained from the City of Portland tax database. The first mailing focused on the Green Neighbor Family Fest, the second promoted upcoming healthy lawn care events in the watershed, and the third focused on the proper way to dispose of yard waste.

Two additional mailings were sent to households in the targeted neighborhoods of Rosemont and Nason's Corner. The Green Neighbor Guide, which was developed through the GNCS program in 2014, was mailed to all residents in these neighborhoods. The second mailing was about the incentives for participating in the GNCS program.

### Storm Drain Art

CCSWCD hired a local artist to design a storm drain mural to raise awareness about the connection of stormwater and Casco Bay. The design has been printed as a decal to be installed on the sidewalk adjacent to selected storm drains. Using a decal rather than painting a design directly onto the sidewalk will allow the City and CCSWCD to easily replace damaged storm drain art, if necessary. Locations for application on Ludlow Street have been identified. CCSWCD anticipates art installation to be complete by September 1, 2015.

### General Outreach

CCSWCD maintained the GNCS website and social media accounts. Press releases about the program were sent to local newspapers. Topics included the Green Neighbor Family Fest, GNCS program offerings, storm drain stenciling and canvassing events, and community socials.

### Lessons Learned

Overall, momentum for GNCS has grown over the past year; however, there are some elements that CCSWCD feels should be revised or removed from the program due to lack of interest from the community. The trash bag rebate program is one example. There was no interest in this element of the GNCS program over the past year. As such, CCSWCD recommends removing this element of the program, which will result in a cost savings to the City.

While participation in the trash bag rebate program declined over the past two years, other elements have grown. New relationships formed with residents, associations, and businesses in the area have provided new opportunities to engage Capisic Brook watershed residents. For example, partnering with Rosemont Market on Harvest in the Hood expanded participation in the Green Neighbor Family Fest, by including Breakwater School, Rosemont Market, and Nason's Corner Park as exhibitors.

CCSWCD considers the Green Neighbor Family Fest to be an important event to support both the GNCS program and the City's stormwater service charge. For residents to fully understand and support a stormwater fee, they must understand that water is a valuable resource and why stormwater is an issue, which all coincide with City's goals in establishing the service charge. The Fest provides the City with a venue to reach residents to build the case for clean water and sustainability. CCSWCD would like to work toward making the Fest a more prominent component of the dual event. We welcome the opportunity to discuss ideas to grow the Fest with City staff and others to make the 5<sup>th</sup> Annual Urban Runoff and Green Neighbor Family Fest in 2016 a landmark community experience.

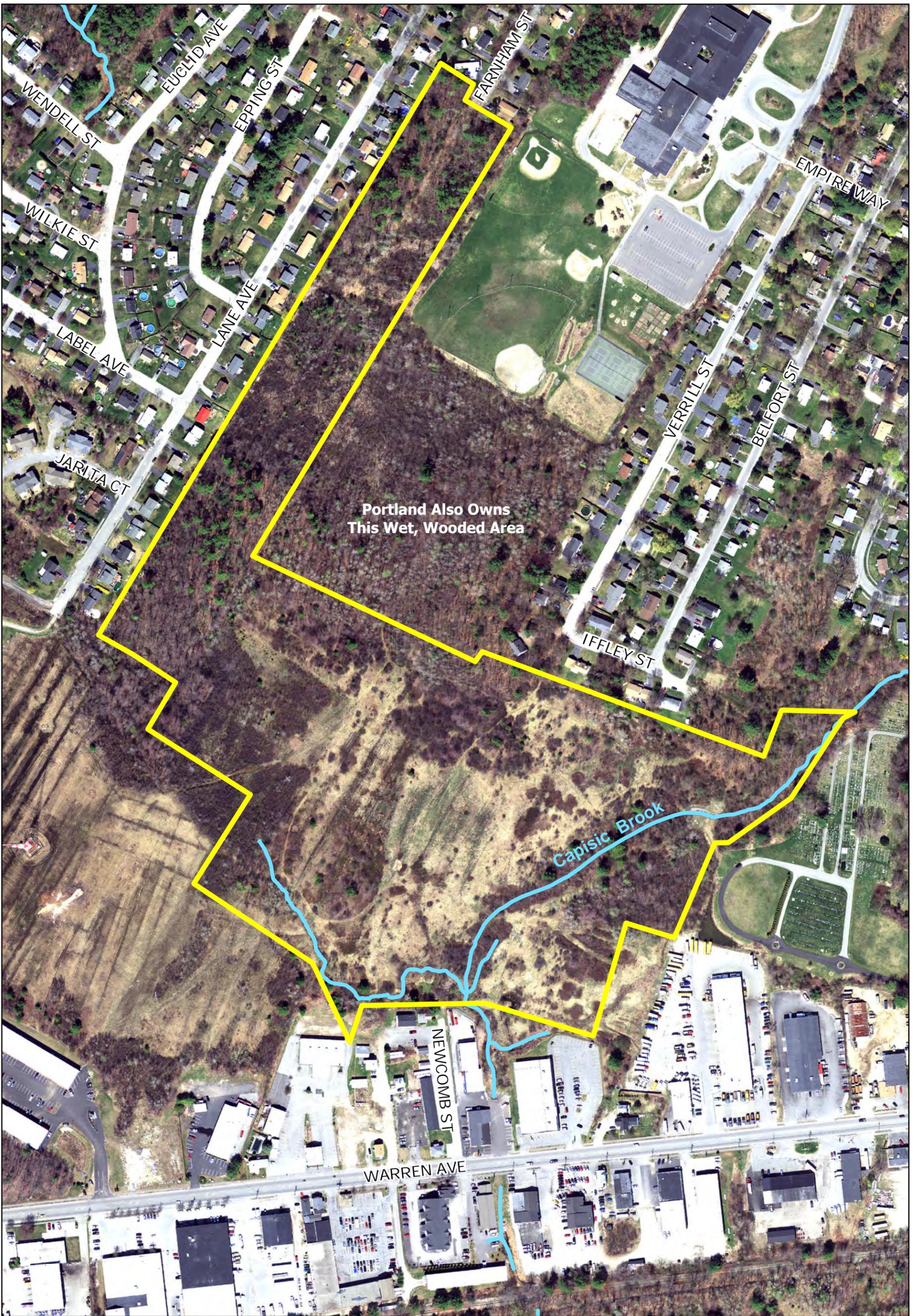
Establishing the Youth YardScaping program at Longfellow Elementary School also helped build momentum for the GNCS program. This program provided a multi-generational learning experience where students imparted



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their healthy lawn care knowledge on their parents and community members at the Longfellow Spring Fair. The Fair drew a large, captive audience, and people were interested in learning more about GNCS and healthy lawn care. CCSWCD recommends continuing this program in the future, due to its ability to effectively reach multiple audiences and for the opportunity to provide additional information to participants at the event.



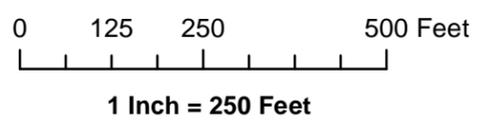


Portland Also Owns  
This Wet, Wooded Area

Capiasic Brook

WARREN AVE

NEWCOMB ST



**Warren Avenue Property Adjacent Capiasic Brook**

City of Portland  
Department of Public Services  
11-12-2015



Approximate Boundary  
of Warren Avenue Property



Students from Longfellow School pose with their YardScaping displays at the 2016 Longfellow Spring Fair.

## Background

The Cumberland County Soil & Water Conservation District (CCSWCD) continued to coordinate and implement the Greener Neighborhoods Cleaner Streams (GNCS) program on behalf of the City of Portland in Fiscal Year 2016 (July 1, 2015 – June 30, 2016). Funding provided by the City of Portland for the GNCS program provided cash match to the Capisic Brook Implementation grant, funded by the Maine Department of Environmental Protection.



Healthy lawn care benefits Capisic Brook and the health of kids and pets.

The goal of the GNCS program is to educate residents of the Capisic Brook watershed about their role in cleaning up the Brook. The program's current focus is changing residents' lawn care behavior and encouraging other behaviors that will benefit the Brook (e.g. proper disposal of pet and yard waste). This report summarizes the work completed during FY16.

## Green Neighbor Family Fest



Face painting is always a popular at the Green Neighbor Family Fest.

CCSWCD coordinated the fifth annual Green Neighbor Family Fest, which took place on April 23, 2016. The one-day event was held at Deering High School following the Urban Runoff 5k. It served as a platform to raise awareness of GNCS, as well as an opportunity to educate the public about their role in clean water and a healthy environment.

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## Green Neighbor Family Fest (cont.)

At the Fest, activities related to conserving local resources were provided by the following organizations:

- A&L Laboratory
- Bicycle Benefits
- Bicycle Coalition of Maine
- Book Mobile
- Breakwater School
- City of Portland
- Coast Encounters
- Cumberland County SWCD
- Deering Center
- Deering Neighborhood Assoc.
- Deering High School
- Friends of Casco Bay
- Garbage to Gardens
- Girl Scout Troup 1547
- IDEXX Laboratories
- Lamey Wellehan
- Maine Energy Education Program
- Maine Green Power
- Maine Water Environment Association
- Nason's Corner Park
- Party Palooga
- Project Learning Tree
- Rosemont Neighborhood Assoc.
- Sappi Paper
- Spiral Tree Yoga & Wellness Studio
- Surf Camp Maine
- The Sunrise Guide
- Whole Foods Market

Marketing efforts for the Green Neighbor Family Fest included targeted online advertising to Portland-area residents, email notifications, posters distributed throughout local municipalities, and information posted on social media. WMTW News 8 developed a 20 second ad promoting the event that ran throughout the month of April. WMTW also conducted six live interviews on the morning of the event. Other media advertising included radio ads on 98.9 WCLZ. Approximately 700 participants attended the event on a rolling basis.



Brian Peters on



Brian Peters on

Left top: The addition of a bounce house was a hit with festival participants.

Left bottom: Scoopy Doo spread the message of picking up pet waste.

Right top: Coast Encounters provided a marine touch tank.

Right bottom: Sappi's activity showed the importance of trees for clean water.



## Community Workshops & Events

CCSWCD participated in two community events to provide information about GNCS and healthy lawn care.

1. CCSWCD provided healthy lawn care information at **Rosemont Market's Harvest in the Hood** event on October 17, 2015. CCSWCD spoke with approximately 40 Rosemont neighborhood residents and other community members about the program and healthy lawn care.

2. CCSWCD attended the **Longfellow Spring Fair** on June 4, 2016 to support the Longfellow Elementary School fifth graders who presented information about healthy lawn care as part of their participation in the Youth YardScaping program (see the Youth Education section for more information). CCSWCD provided supplemental YardScaping information to attendees who wished to learn more about the practices. More than 60 community members attended this event, in addition to students and teachers.

## Neighborhood Canvassing & Technical Assistance

CCSWCD conducted targeted outreach in the Rosemont, Deering, and Nason's Corner neighborhoods. These neighborhoods were chosen based on previous research about lawn care practices that indicated that many households in these neighborhoods use lawn care companies or apply fertilizer or weed and bug killers. Households in all three neighborhoods received information about GNCS and healthy lawn care.

The canvassing events took place in the spring of 2016 (June 2<sup>nd</sup> in Rosemont, June 8<sup>th</sup> in Deering Center, and June 9<sup>th</sup> in Nason's Corner). During these events, the Green Neighbor Guide (developed in 2014) and a YardScaping brochure were handed directly to individuals who were outside their homes. This direct distribution of information spurred conversations about how lawns are maintained. CCSWCD took advantage of these canvassing events by providing simultaneous technical assistance to residents. CCSWCD spoke directly with 35 watershed residents during these canvassing events.

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## Mailings

The FY16 scope of work called for five mailings to be sent to watershed residents. Three mailings were sent to all households in the watershed. Addresses were obtained from the City of Portland tax database. Healthy lawn care, proper disposal of yard waste, and proper disposal of pet waste were covered.

A fourth mailing was sent to households in the targeted neighborhoods of Rosemont, Deering Center, and Nason's Corner. This mailing focused on the Green Neighbor Family Fest and encouraged residents to attend.

The fifth mailing was replaced by targeted online advertising to provide additional promotion of the Green Neighbor Family Fest. Based on Facebook advertising reports, the ads were seen nearly 21,000 times by people in the Portland area, and they generated 191 clicks on the link for more information about the event.

Online advertising costs a fraction of the cost of traditional mail, provides the ability to target the audience and the geographic area that will see the ads. In addition, online tracking provides information about who is seeing and responding to the ads. CCSWCD recommends exploring the expanded use of online advertising in future years to save money and provide the ability to easily track the effectiveness of outreach.

## Youth Education

CCSWCD worked with the three fifth grade teachers at Longfellow Elementary School to implement a Youth YardScaping program. Students learned about stormwater through an in-class lesson and a walking field trip to Capisic Pond Park. After the introductory lessons, the students were divided into groups and assigned YardScaping topics to research. Overall, CCSWCD provided 62 students with 19.25 hours of hands-on clean water education.

At the end of the Youth YardScaping program, students shared their learning with parents and community members at the Longfellow Spring Fair on June 4th. More than 60 people attended the Fair and learned about YardScaping. Feedback from the community was very positive, and many requested additional lawn care information. Based on lessons learned from the 2015 Youth YardScaping program at Longfellow Elementary School, CCSWCD provided additional YardScaping information and fact sheets to parents and community members who were interested in learning more about healthy lawn care.

The teachers who participated in Youth YardScaping were extremely happy with the program. They felt the lessons were easy to incorporate into their curriculum and did an excellent job introducing new topics and reinforcing topics the students learned earlier in the year. The teachers wish to implement Youth YardScaping in 2017.

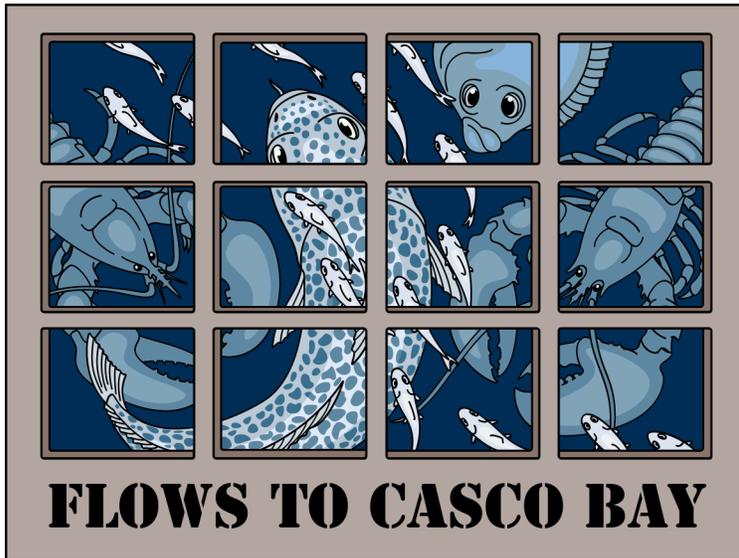


Longfellow Elementary School students have fun on a walking field trip from their school to Capisic Pond Park.



## Storm Drain Art

In the spring of 2016, CCSWCD worked with the City of Portland to prepare two storm drain locations for installation of the storm drain art murals. As of the writing of this report, the sites have not been pressure washed, as is needed for the mural application. CCSWCD is prepared to install the murals as soon as the sites are prepped by City staff. We look forward to having these in place for the 6<sup>th</sup> annual Green Neighbor Family Fest.



Storm drain mural designed by local artist, Jada Fitch.

## General Outreach

CCSWCD maintained the GNCS website and social media accounts. In FY16, CCSWCD carried out an extensive revision of the GNCS website. Outdated information was removed and updated information about the goals and scope of the project were added. In addition, press releases about the program were sent to local newspapers. Topics included the Green Neighbor Family Fest, GNCS program offerings, and community events.



Postcards about clean water practices were sent to watershed residents. Details on previous page.

## Lessons Learned

Modifying the approach and focus of the Greener Neighborhoods Cleaner Streams program may result in reaching a larger or different portion of the Capisic Brook watershed community. For example, continuing the Youth YardScaping program at Longfellow Elementary School helped build momentum by providing a multi-generational learning experience where students imparted their healthy lawn care knowledge to their parents and community members at the Longfellow Spring Fair. The Fair drew a large, captive audience, and people were interested in learning more about GNCS and healthy lawn care.

CCSWCD and the City of Portland have discussed incorporating more opportunities for multi-generational learning into the GNCS program. CCSWCD has proposed a scope of work for Fiscal Year 2017 that focuses on working in three watershed schools (Hall School, Longfellow Elementary School, and Deering High School) to provide students with both classroom and community service learning opportunities that focus on clean water and restoring Capisic Brook. This work is designed to educate students, their parents, and other community members by incorporating service projects into the school initiatives that benefit the larger community.

At the Green Neighbor Family Fest, CCSWCD chose to staff a bounce house, rather than provide a GNCS-focused booth and activity. To make up for the lack of a booth, CCSWCD made a concerted effort to promote GNCS verbally during the Fest announcements and recognitions. While a number of attendees commented that they were unaware of the connection between the GNFF and the City of Portland until they heard the announcements at the Fest, CCSWCD recognizes the need for both verbal recognition and a GNCS booth at the event. In 2017, GNCS information will be provided in conjunction with the bounce house, allowing CCSWCD staff the opportunity to speak with adults about the program while their kids are enjoying the bounce house.

Lastly, CCSWCD recommends replacing mailed information with online advertising directed to residents of the Capisic Brook watershed. Online advertising can be targeted to specific audiences and geographic area. They are also less expensive than mailed postcards and can be tracked for effectiveness. Online ads will also be an excellent tool for increasing website traffic and followers on social media.